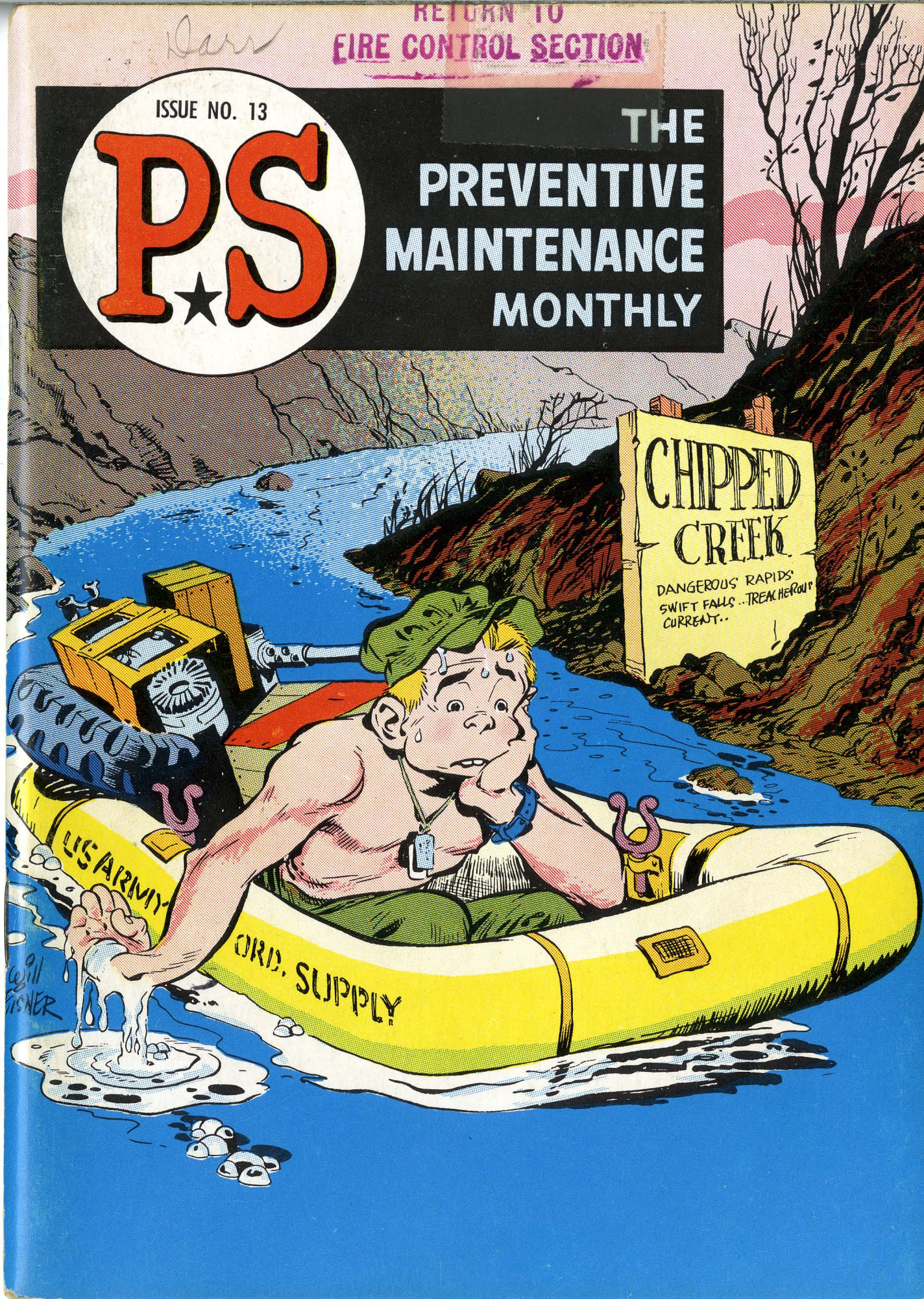
RETURN TO
FIRE CONTROL SECTION

ISSUE NO. 13

P.S

THE PREVENTIVE MAINTENANCE MONTHLY



PREVENTIVE MAINTENANCE

is everybody's business

Dear Sir:

I read PS Magazine all the time, and believe me, I take it all very seriously.

The technical dope you put out on latest developments is the finest information we have to go by before the directives get here, and it is always very clear and understandable.

I can't say the same for your other departments, like the Joe Dope poster, and some of your editorials. Frankly they get me confused and I hope you can straighten me out. You seem to be kind of mixed up yourself, as I see it, on this business of Preventive Maintenance responsibility.

You and your guest editorial writers, and some of the people you quote, always seem to be carping on Command Responsibility—how we can only have good maintenance if the higher rank understands it, preaches it, demands it, and then follows through to see that all's taken care of.

Then somewhere along in the middle of each book, you spend two pages in color to beat up on poor old Joe Dope for always not doing what he's supposed to do, and thereby he either loses some battle or at the very least he creates havoc in his outfit.

Could you possibly be using a bassackwards approach to the old saying that if the student hasn't learned, the teacher hasn't taught? Or are you trying to make the point that **Preventive Maintenance is Everybody's Business?**

Yours truly,
WOJG Edwin R. Erkhard

(Ed Note: See page 576.)

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IN THIS ISSUE

ISSUE NO. 13 1953 SERIES

TANK-AUTOMOTIVE

New M62 Wrecker	554
Generator-Regulator Grab Bag	561
M47 Override Relay	565
Double-Sprag Clutches	566
Locking Wires	568
Model Modifications	578
Tire Measuring Device	589

ARMAMENT & AMMUNITION

M2 Browning Headspace	572
HE M329 Ammo	590
Nix On Pressure Cleaning	591
Rifles Rubbed Ragged	591
M2 Carbines	591

FIRE CONTROL

Telescope Reticle	592
Sight Mounts	593

ARMY AIRCRAFT

H-19C Free Wheeling Unit	594
Battery Checks	594
H-19C Clamshells	594
H-13 Starter Parts	594
LC-126 Engine Safety Bar	595

SUPPLY

Production-Line PM	596
Steering-Knuckle Boot Kit	597
M135 Supply Catalog	597
Publications Listings	597
Tires, Tubes & Flaps	597

DEPARTMENTS

Connie Rodd	562
Half-Mast	569
Joe Dope Limerick	576
Contributions	598

PS Magazine wants your ideas and contributions, and is glad to answer your questions. Just write: **Editor, PS Magazine, Aberdeen Proving Ground, Aberdeen, Maryland.**

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Gentlemen, step over here a moment and meet the new hydraulic-crane truck that's gracing better motor pools everywhere.

the new M62 wrecker

The M62 is a recovery vehicle capable of all but the heaviest recovery work, but the real joy it will bring to your life is the way it takes the jerk out of jerking an engine or power-package, or grooving and ungrooving a gun tube.

YOU all know that the big problem in any lifting job is the little movements. It's even trickier as your blistered hands and aching back can testify, to thread your umpty-ton gun tubes into their socket.

Well, that's where the new crane made by the Austin-Western people comes in. Being hydraulic, it is capable of much finer control under full load than any friction-clutch hoist you ever saw, and can ease an engine or gun tube into place as easy as you please.

Looking at the wrecker (Fig. 1), you can see that it's a crane mounted on the M39 series 5-ton International chassis. This crane can swivel clear around. But to keep you from knocking the cab off the truck in your wilder moments, a removable stop limits the travel to 270°. You can raise that boom from the level traveling position anywhere up to 45°, and the hook end will travel out about eight feet.

HOW IT WORKS

Before you try to run this machine, you'll want to know how it works. Here's how:

To start at the beginning, it is powered by the engine. Power is taken off from a continuation of the input shaft of the transfer case. This means you must have the transfer case in neutral to run the crane or the rear winch. (The emergency brake can be on since the brake is mounted on the transfer-case's output-shaft.)

From the transfer case, the power goes to what is called a power divider at the rear of the truck. You set this power divider to your choice of winch or crane, and when in crane position you have actually engaged the hydraulic pump which provides operating pressure in the crane lines.

To save you a lot of scampering from the bed to the cab and back, and to give you better vision and control when using the rear winch, they have brought back an extra clutch control and a throttle lever to the rear position.

Now, the hydraulic pump runs best at 1500-rpm, and to keep it there they rigged a contraption. There is a gover-

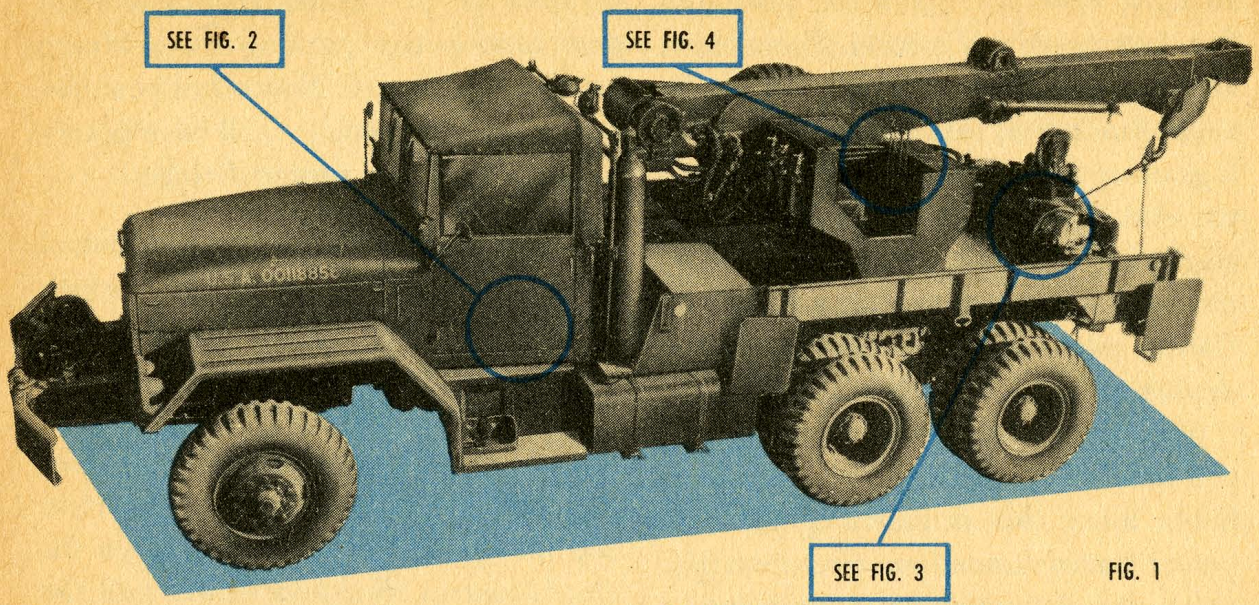


FIG. 1

nor unit on the pump very much like the one on the engine except for its speed range, and when you engage the pump you automatically switch a valve in the governor vacuum lines which turns control of the engine speed over to the pump governor. All you do is shift to the crane position, pull the rear throttle all the way out, and you are in business.

The hydraulic pump takes oil from the supply tank and provides it, under about 1200-pounds pressure, at the valve bank in the crane cab. From there, you send it to the crane cylinders, the hoisting motor, or the swing motor according to your needs.

'Ten—shun!

Sharpen one eye and point it frequently at the right ¾" bolts that fasten the Boom Shipper to the mast. They need to be kept spinach-tight at all times or else you'll have wobbly fit or even worse . . . sheared bolts.

HOW TO OPERATE

That's **how** it works, now here's how you work it:

First of all, of course, you drive the wrecker to the job, picking the best position you can according to conditions. Then you size up your load to see if you need your outriggers. The SAFE LOAD CHART on the crane (shown below) will help you here. However, **if you are in any doubt at all,** put the outriggers out —it doesn't take long—and this wrecker will **not** pick itself up if you tip it over. Take out the L-shaped retaining pins and pull the outrigger out till it stops, then

SAFE LOAD CHART

2 PART HOIST LINE

RADIUS	WITH OUTRIGGERS LOAD IN LBS.	WITHOUT OUTRIGGERS LOAD IN LBS.
10 FT.	10000	6700
11 FT.	8400	5800
12 FT.	7150	5100
13 FT.	6300	4600
14 FT.	5600	4150
15 FT.	5000	3800
16 FT.	4550	3500
17 FT.	4250	3200
18 FT.	4000	3000

MAXIMUM CAPACITY WITH BOOM RETRACTED & BOOM SUPPORTED TO FRAME - 20,000# @ 10 FT. RADIUS WITH ALL OUTRIGGERS DOWN - 3 - PART LINE.
20,000# @ 15 FT. RADIUS WITH BOOM JACKS TO GROUND, 3 - PART LINE - REAR OUTRIGGERS UP.

swing it down and screw the plate to a firm footing on the ground. These plates are big enough for most ground conditions; but in real soft going, put planks, logs or even rocks under them to spread the load. When the inner hole on the outrigger boom lines up with the retaining-pin hole in the bed, put the pin back in. Chock your wheels if the ground is slippery.

Now your truck is in position, and you must next release the boom and the hook. Since this is easier to do with power on the crane, you fire up at this point. From the cab, start your engine and be sure your low-air-pressure buzzer has stopped buzzing, then apply your foot brake and turn the brake-lock switch on the instrument panel. This locks all six wheels to give you the best hold on the ground you can get.

Holding down your clutch pedal, you shift your transmission to fifth gear, and your transfer case to neutral. Now engage the power divider by unlocking the lever (Fig. 2) at the left side of your seat (above the parking-brake lever) bringing it forward. Now when you ease out your clutch pedal, you'll have power back as far as the power divider.

Going back on the bed to the control position just in front of the rear winch (Fig. 3), you pull up the clutch-control lever which declutches your engine. Lift the safety latch and pull the pump-control lever forward to engage the pump. You may have to double-clutch to get it to slip into gear. You then ease down the clutch-control lever and slowly pull the throttle lever open all the way (your engine speed is governor-controlled, remember?)

THE CRANE

To use the crane, you stow the telescopic traveling-supports which are holding the fixed part of the boom—called Boom Shipper—by unpinning them from their rings on the truck bed, and swinging them up alongside the

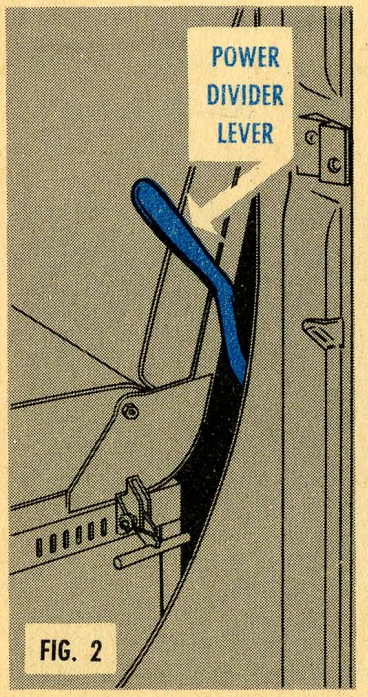


FIG. 2

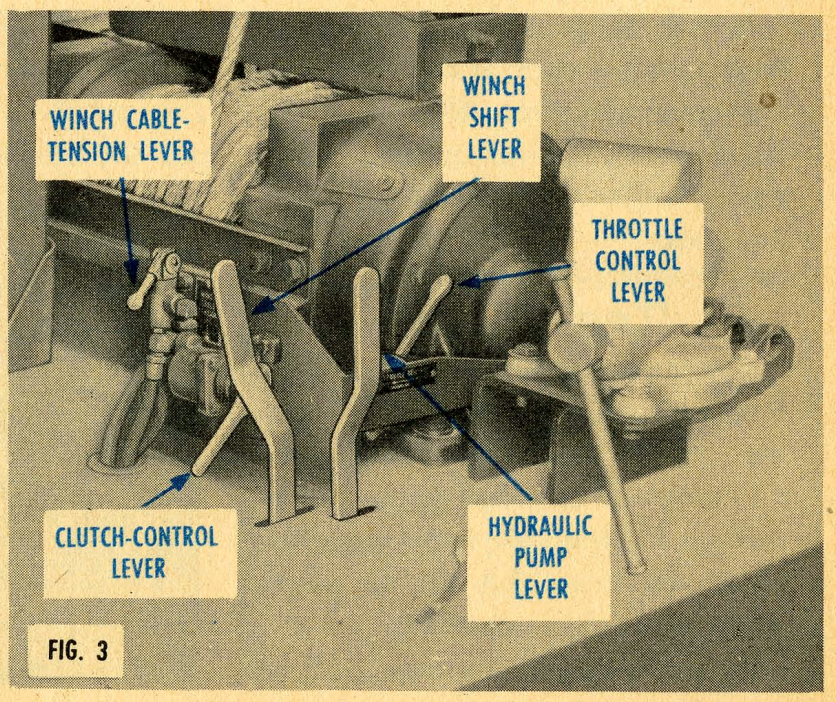


FIG. 3

boom shipper. Then when you slack off the hook by moving the hoist lever in the crane cab (Fig. 4) away from the seat, you can remove the hook bridle and you are ready to use the crane.

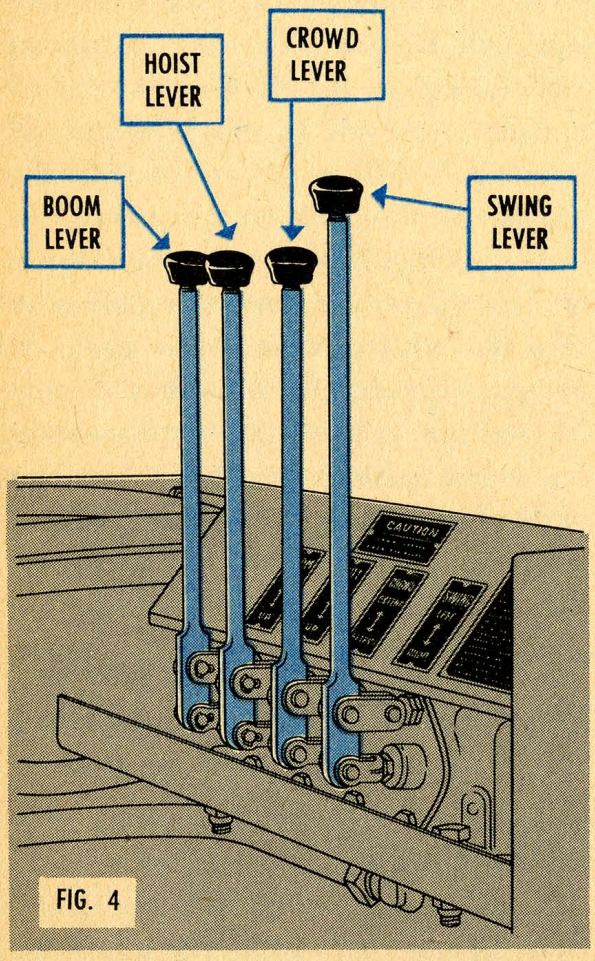


FIG. 4

Looking at Figure 4 . . . you will see the four control-valve levers which control the operation of the crane. You will find the direction of motion on these levers agrees with your instinctive sense of which-way is where, and after very little practice you will handle this crane with skill and confidence.

Reading across from left to right as you sit in the cab (Fig. 4), the BOOM lever raises and lowers the boom. You pull to raise, push to lower. The HOIST lever controls the crane cable. Again you pull to raise, push to lower. The CROWD lever extends and retracts the movable part of the boom. You push the lever away from you, the boom goes away, the load goes away. You pull the lever to you, the boom and the load come in to you. The SWING lever, on the far right, controls the swing motor. Push the lever out in front of you, and you and the cab move forward—turning to the left, that is. Pull the lever back to you, and you and the cab move backward—turning to the right.

When you've run this crane awhile and want to make compound moves with the hook, you'll find that the pump has enough capacity to allow use of any two levers at the same time.

Caution: Always push the crowd lever and hoist lever forward together. When you crowd or extend the boom, the hoisting motor and cable drum don't go out with the boom; so the hook comes up a ways. If there's not enough distance between the sheave and hoist block, you'll jam the block into the sheaves at the end of the boom.

Safety valve: There's an oil-pressure relief-valve in the hydraulic system that pops and prevents damage if you keep the valves open after the pistons reach the end of their stroke. This doesn't mean you can make a practice of operating the swing, crowd, or boom hoist until they stop themselves . . . a safety valve is no substitute for a good operator. Besides, you could break a hoist cable before the valve popped, so keep an eye on what you're doing. And remember not to jam that hoist block into the boom sheaves.

HEAVY LOADS

So much for the normal loads and

usage of the crane. Comes a time that you wish to make a heavy lift at full boom extension. It is possible to do so by supporting the boom. The boom jacks are those long telescoping tubes in the stowage. Feet for these jacks are provided, also a spreader bar. The boom jacks are attached, by means of a 1½" dia. pin, at the hole about 5' in from the boom end. The boom-jack feet when on soft ground, should be supported same as the outrigger feet. When using these jacks, lower the boom until the weight is off the boom-lift ram, and use only the cable hoist in lifting.

In lifting the average load, the two-part position of the cable is adequate. For heavy loads, or for more precise control, unpin the cable from the end of the boom, carry it over the right-hand sheave and pin it to the becket of the hoist block. This will give you a three-part hoisting rig with greater capacity, but with slower hook speeds.

Considering loads in general, the first thing to look at is your SAFE LOAD CHART on the crane (shown at bottom of page 555.) This gives you the proper loads for operation at the **side** of your rig, both with and without outriggers. It is true that your machine **can** lift larger loads at the rear, but it is also true that your big lift **can** result in bent booms, bent frames, and so on.

OTHER USES

This crane has many more uses than simply recovering vehicles and changing engines and gun tubes. By crowding the boom, it is possible to pick up boxes behind a truck and load them all the way to the front of the bed. You can also stack loads to a considerable height by running the boom clear up.

To tow a disabled vehicle, you've got to rig the boom-shipper supports to take the strain off the boom-hoist ram and the swing gears. Extending the telescopic legs will let you ride with the boom high enough to lift the front wheels of the towed vehicle to a safe height off the road. But rig your tow bar from the wrecker pintle-hook to the towed vehicle's bumper tow-rings. In the absence of a tow bar, use your tow chains to take the towing strain from pintle to bumper—the crane cable should only lift the tow. (Remember to disconnect the towed vehicle driveshafts for tows of 50 miles or longer. Also, use your air jumper-hoses to operate the brakes on the towed vehicle.)

Note: It is possible to set up a two-man operation and run both the winch and crane simultaneously if recovery conditions call for it.

REAR WINCH

Now having considered the crane, consider the rear winch. The big difference between this winch and the older ones which are more familiar is the level-wind device (called a Spooler) on

top of the winch. This spooler is a sheave on rollers, running on a curved track across the top of the winch. When the cable is reeled in under tension, this spooler runs back and forth on its track, laying the cable in neat, level rows on the drum. Anyone who has pulled a bird's nest of heavy cable off an old-style winch will be sure to like this rig.

There's one feature of this winch that must be understood, however, or you'll get in all kinds of trouble. To work the spooler effectively, the tension on the incoming cable must be constant and even—more constant than the most careful winch man can provide under the various conditions of recovery work. To keep this constant tension, a set of air-operated tensioner-sheaves has been provided below the spooler. These tensioner sheaves retard the incoming cable just enough to be sure the spooler works right. This much is simple, but these tensioner sheaves can also hold the outgoing cable, making the swamper's job much harder, and almost surely making the cable come off the drum faster than it was pulled out. So you could have a bird's nest after all.

To solve this problem, there's one more control at the rear-control position —the tensioner-control valve. This valve must always be **off** when spooling out. It must be **on** when spooling in. Also, the spooler-sheave trolley has a lock pin which holds it for traveling. Be sure this pin is pulled out when winching.

WINCH OPERATION

To operate the rear winch, you set the cab controls up the same way as for crane operation—except that you can use third gear for full-capacity loads. Back at the rear position, you make sure that the hydraulic-pump control is out and locked. Then use the clutch lever to disengage your clutch, and pull the winch-control lever forward to reel in, pull it back to reel out. You start the winch turning by pushing down the clutch lever, and control the winch speed with the engine throttle-control-lever.

Caution: Do your winching at engine speeds below 1000-rpm. Whatever you're pulling isn't going anywhere till you get it out. Better to take it easy and get it out undamaged than to rush things and tear up the equipment. Also remember that in winching position it is the engine governor, set for about 2800-rpm, that is in control—not the slower pump governor. In picking up your load, you'll need to work your clutch and throttle together just as you do in driving, but take it easy.

You'll find snatch blocks, ground anchors, chains, and so on in the stowage boxes which will let you set up sufficient mechanical advantage to handle whatever recovery jobs come your way. There are also spades that can be used to hold the wrecker against winch pull at any required angle. If possible, of course, it is best to pull straight to the rear.

When you are deciding whether or not you need to drive your ground-anchor stakes or deadmen and rig snatch blocks on them, be sure to consider one point. The capacity of your winch is listed as 45,000 pounds. Allowing for some safety factor, the cable may break anywhere above 50,000 pounds. Since there is no safety frame or Headache Rack between you and the winch, you'd

do well to drive a deadman in the ground with a block on it for dead-weight pulls in the high-weight bracket.

Your front winch is a spooler type, too. It works the same as the rear winch, except that the tensioners are manually controlled. This winch can be used like any other front winch, in connection with the low-gear low-range of the vehicle, to get out of a hole. Since this winch is primarily for getting your own vehicle out of holes, it is best not to use it for recovering other vehicles. Keep your ace in the hole and it'll get you out of one.

CARE AND FEEDING

Now as to the care and feeding of your new baby: You take care of the chassis as outlined in the vehicle lube order. The crane wants frequent greasing at the fittings, using GAA (Mil-G-10924) for all temperatures. The power divider, the crane-cable-hoist worm-gear case and the winch cases want Mil-L 2105 (SAE 90) above 0° (F), or Mil-10324 below 0° (F). The hydraulic-oil tank wants OE 10 from 0° to 90° (F), OE 30 above 90° (F), and OES from 0° (F) on down. Needless to say, the oil in the hydraulic system wants to be clean oil.

On the other hand, as long as the oil is right for the temperature range, and stays clean, it need not be changed. **Caution:** Always check the level of hydraulic oil before operating the crane. Fill to top mark on the dipstick.

There is one thing you should never forget. Once in a rare while you may hear squealing or clattering noises from your hydraulic pump. If and when you do, stop the pump, check the oil level and then make sure the shutoff valve at the tank outlet is fully open. (This valve should be closed **only** for major disassembly and repair of the crane.) If there's plenty of oil and the valve is open, be sure the screen on the oil filler has not been broken or removed. If you find it gone, send the vehicle to Ordnance for check and repair.

LAST, BUT NOT LEAST

Be gently reminded that the wrecker man is the last resort of a driver who can't get his vehicle home any other way. If you bolix up your wrecker, there's nobody to come after you and bring you in. You will never hear the end of it if you have to go with your hat in your hand and get some other outfit's wrecker man to tow you home. On the other hand, that same wrecker man will generally be right willing to come out and hook on to an overload **with** you—he knows you'll help him if he needs it.

Be smart. You are the wrecker-man people call when they need help, and you oughta be available. So when **you** need help, get it **before** you pull your rig to bits.

CAUTION: When securing for the road, be sure the pump and the winch gears are in neutral. (You don't want to hear ripping noises when you next engage the power take-off in the cab.)

generator and regulator grab bag

Speaking of generators and regulators for the 24-volt vehicles—since Auto-Lite generator and regulator parts are not interchangeable with Delco-Remy generator and regulator parts, you might think the units themselves aren't mixable. But they are.

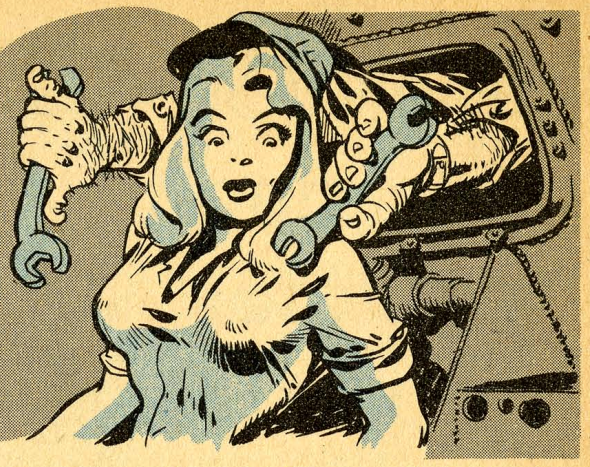
No need to knock yourself out hunting for a Delco-Remy regulator to match that Delco-Remy generator, or an Auto-Lite generator to match that Auto-Lite regulator—they can be switched around any which-way. You can also use the two-brush-type generators as replacements for the four-brush-type generators (and vice versa) no matter what kind of regulator is in the truck.

The only thing you must remember is that the shock mount, if any, goes with the vehicle, not with the regulator. It seems that while both the Delco-Remy and the Auto-Lite regulators are designed to work OK in the midst of the vibration they get from the vehicles, some installations were found to be troubled by real low-frequency vibrations and the shock mount was the best answer. So you leave the shock mount where it belongs and switch only the regulators. (This is the only way you **can** do it anyhow—the holes for mounting the shock mount on a vehicle don't match the holes that let you put the regulators on the shock mount. Clear?)

Another thing: The regulator you're using for replacement was calibrated for either a vertical or horizontal mounting position, and you are maybe going to use it the other way around. For this reason alone, it's good to remember that when teaming unmatched components, they should always be recalibrated as a team—by people who know how to use the right instruments. However, as a field expedient, the variation in voltage is so slight that you can go about your mission unconcerned till you can get to an adequate shop.

This whole business of interchangeability of generators and regulators as units might cause confusion in areas where radio bonding is important. Why? Because Delco-Remy worked radio suppression into the generator and regulator both, while Auto-Lite put it all in the regulator. Which means an Auto-Lite generator mated with a Delco-Remy regulator equals no radio suppression, but a Delco generator and an Auto-Lite regulator will be quiet. Tell it to the Signal Corps if they start scratching their heads over your vehicle.

Connie Rodd's "SHORT 'N SWEET DEPT"



Radiator hose

Because something slipped a cog somewhere along the way, ORD 8 SNL G758 doesn't list a radiator hose to carry the M38A1's water back into the radiator from the engine. If you've been improvising (the hose isn't straight like the M38's) for replacements, your troubles are over. Add this number in your ORD 8 and start your requisition: Hose, water inlet, radiator (moulded); Stock No. G758-8328457.

If you need it now and it isn't in local stock, here's a quick solution for you: Get yourself an inlet hose (Lower) for the M38—Stock No. G740-7697589. Remove the reinforcement spring and hold the new hose along side the old one to see how much to cut off. A small piece off each end and it'll sluice your M38A1 till the right hose comes along.

Truck-tractor gearshift

Been wondering how to lubricate the gearshift linkage on your M26 or M26A1, 12-ton truck-tractor? If you have, here's how you'll do it.

Put your transmission gearshift-lever in neutral and shove it to the right as far as you can. Keep it there until you've finished the job that's coming up, or you might drill into the gearshift-lever housing and run into trouble.

Measure ¾" from the bottom, on the left side of the gearshift-lever bell (Fig. 1) and mark it with a center punch. Drill a ⅛" hole—in the bell only, please don't go into the housing.

Take some red paint and smear a big circle around the drilled hole. This will remind you to lubricate the gearshift linkage every 500 miles with seasonal oil (TB 9-767-3, 28 Oct 52). And when you lubricate, push the lever over into neutral position to make for an easier oiling job.

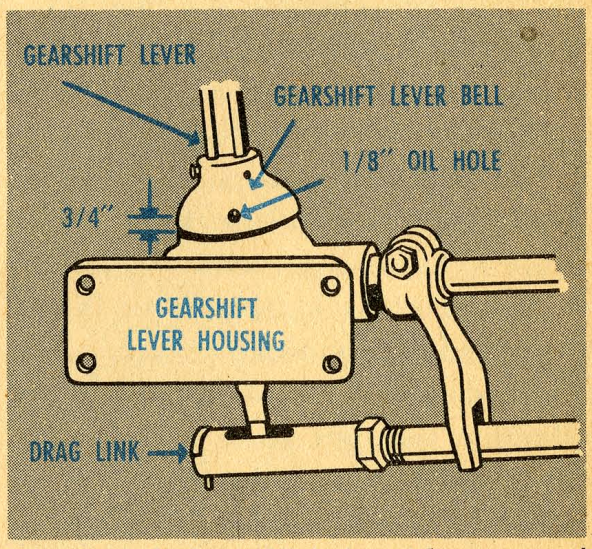


Fig. 1—A little 1/8" hole with some red paint around it makes stick pushing easy.

Rear-axle-vent baffle

Wiping your M38's differential-housing cover won't stop this lube from oozing its way out of the vent and messing up the cover. It'll keep squeezing out and pick up dirt the way fly-paper collects flies, clogging the vent. Next thing you know pressure builds up in the unit forcing grease the wrong way—like the horse who blew first when given a pill through a blow-pipe—blowing out your oil seals.

You can keep the vent clear by putting a baffle over the opening on the housing cover's inside. Make the baffle out of a piece of scrap you have left over from some No. 18-gage steel, Stock No. 47-S-2667-60 (Fig. 2).

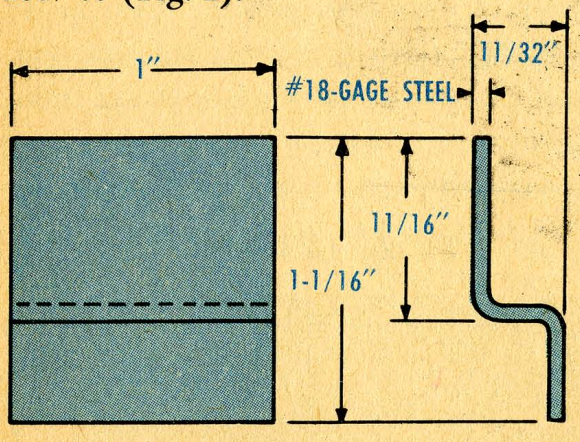


Fig. 2—It's as simple as ABC to make an M38 vent-baffle from left-over steel scrap.

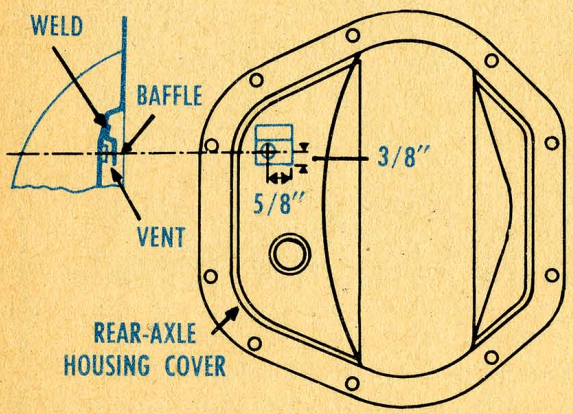


Fig. 3—Welded in place, it'll keep the differential-housing cover neat 'n tidy.

Then take out the rear-axle drain-plug, drain the lube, and take off the housing cover by removing the ten screws holding it in place. Now braze the baffle inside the cover (Fig. 3).

Put back the cover, fill the axle housing with GO and take another problem off your books.

M51 Tailgate-wing hook

Some of these hooks aren't bent closed enough (Fig. 4) and the chain slips off the hook and lets the wing swing outward knocking down anything in its way like a bunch of tenpins.

To make sure you're not behind a ball, press the wing to the dump body and slip the chain over the hook. If you've got too much clearance, take the chain off the hook and tap the U-shaped hook inward with a hammer. How much? Well, it should take a little force to slip the chain over the hook.

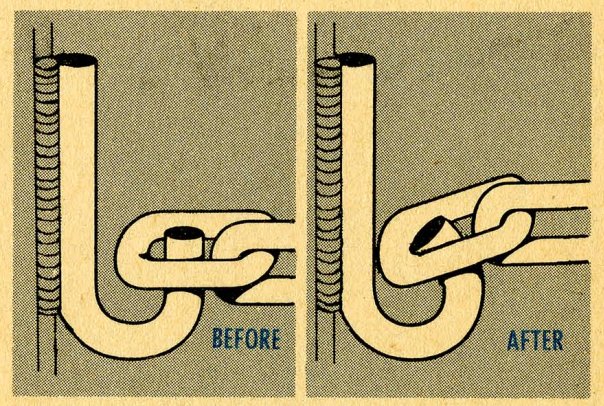


Fig. 4—If the chain slips off in "Before" tap the hook so she'll stay in hereafter.

Front-clutch failures

Too much or too little oil in your M135 Hydramatic transmission will get you an erratic oil pressure which, in turn, will help knock out your front clutch. The oil-

level dipstick is marked for either a hot or cold check, and the level should be at the right mark. Follow the oil-check instructions mighty close (TM 9-819A, page 68) to stay on the road instead of on the fence.

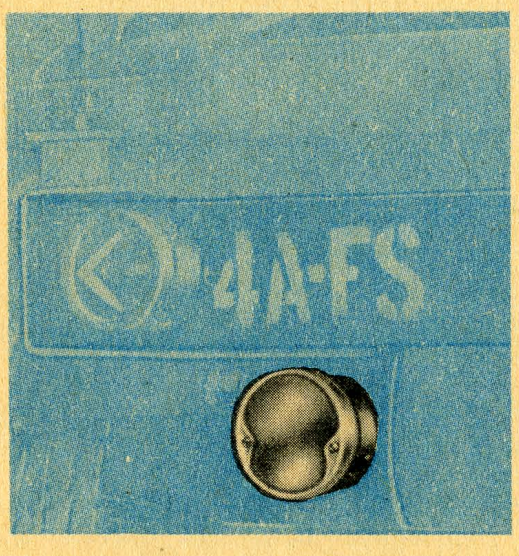
Another thing that will help goof up that front clutch is using F-1 position when terrain, traffic, or road conditions say that the transmission-control lever ought to be in F-2. Otherwise you'll get too much shifting or "hunting," and pretty soon you'll be hunting for a new clutch.

Winch-adjusting bolts

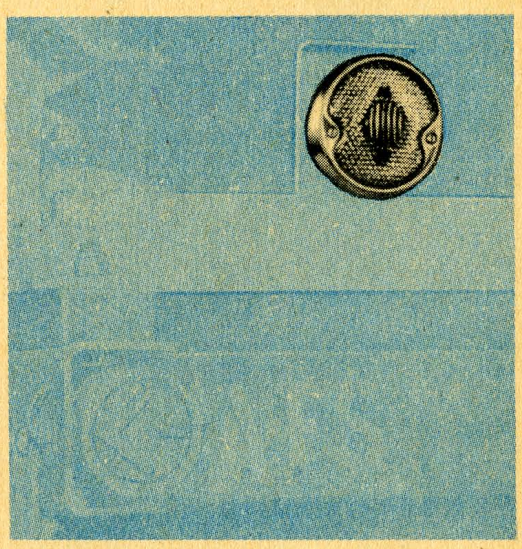
When the Sarge says, "An' now get out there and tighten evvy bolt, nut and screw on that truck," don't take him too literally. He doesn't mean for you to tighten the winch-drag-brake adjusting-screw or the automatic-brake adjusting-bolt. The former is a slotted-head adjusting-screw located at right side of winch and the latter has a hex head and sits on the under side of the worm housing at left side. Turning these screws is to be done strictly according to TM data for winch adjustment—you don't just run 'em up to keep the winch from falling apart.

And while we're on the subject—when your winch acts like some guy has tightened the adjustments instead of adjusting them, but you know he hasn't (you being that guy), then look for rust on the surface of the brake disc under the lining. Condensation in the winch housing sometimes rusts the disc surface making the winch action erratic—if at all. In some dampish posts they pull the cover occasionally to clean up any rust deposits. And it is SOP to use the winch now and anon to keep the surface of the disc clean.

Move your tail-light out of danger



The tail-lights are slung a little too low under the frame of your 2½-ton, 4x2, GMC Dump (1951). They get banged and bruised when you dump your load.



To make it safer, take 'em both (one's not in the picture) off the cross-member. Reverse the bracket, and weld it to the top of the rear cross-member-subframe.

Disconnect the M47's override relay and save the traverse gear-box.

don't override, commander, sir —or you will strip your gears.

Until such time as a permanent fix gets to you, the commander's override-relay in the dump-valve circuit on the M47 tanks should be disconnected so that the commander cannot override while the gunner's in manual traverse.

Trouble comes when the turret power-control-system is on and the gunner has used his dump valve to make the final lay with manual control. If the commander overrides at this particular time, the gear box automatically shifts back into power. Then the commander releases his override control—the turret is still moving, but the gear box wants to shift back to manual operation immediately. This forces two mating gears to engage (or try to engage) while they're rotating in opposite directions. No can do.

What results is a damaged differential assembly, and, in turn, a turret that surges—if you're lucky. It could also mean you'll need a whole new traverse gear-box.

So you take it from here: Disconnect the single-wire circuit #623 by unscrewing the single-pin Scintilla-connector on the rear of the commander's control (see figure). Tape it, as it is, someplace on the harness to keep it from dangling and getting tangled in the turret ring gear. Vinyl insulating tape (Stock No. 17-T-1745-60) will do a professional job. It would also be a good idea to cover the open socket on the commander's control with the same tape—just to keep out whatever wants in.

With this circuit disconnected, the commander will not be able to override when the gunner's in manual traverse. When the gunner's strictly in power control, however, the commander can still override.

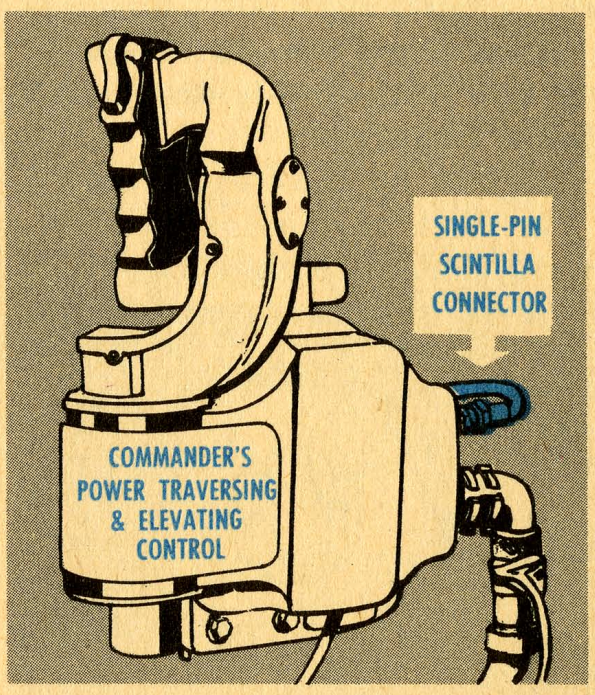


Fig. 1—By disconnecting this single-pin Scintilla-connector, the commander will not be able to override while the gunner's in manual control—meaning no stripped gears.

THE DOUBLE-SPRAG CLUTCH

NOTE: All M44-series, 2½-ton Reo and Studebakers should have double-sprag overrunning clutches (MWO G742-W3). The production change was made with Vehicle Serial No. 90475; trucks prior to that number should have swapped their single-sprag clutches for the new double-sprag unit.

When your front wheels seem to be dragging their feet and are not turning as fast as the back ones, does it mean your M34 2½-ton Reo or Studebaker is hung-over from trucking the day before? Or do you suspect that the new double-sprag overrunning-clutch-linkage is out of adjustment? You are probably right.

Here's how you can know for sure if your double-deal is adjusted properly:

1. Jack up one front wheel.
2. With transmission in reverse: The wheel should be free to turn backwards—it should be locked against forward rotation.
3. With transmission in neutral: The jacked-up wheel should turn forward—it should be locked against backward rotation.

If, by chance, it doesn't check out this way, the shifter linkage between the transmission and transfer case has some lost motion and needs adjusting. So arm yourself with a wrench and screwdriver, remove the floor covers (in the cab) to get a birds-eye view of what's going on, and make the adjustment by the pictures.

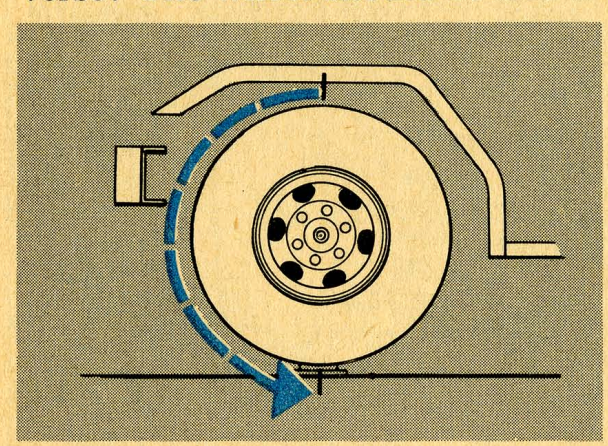


Fig. 1 —Jack up one front wheel (if it's not already up). Shift into first gear, and turn the wheel ½ turn forward.

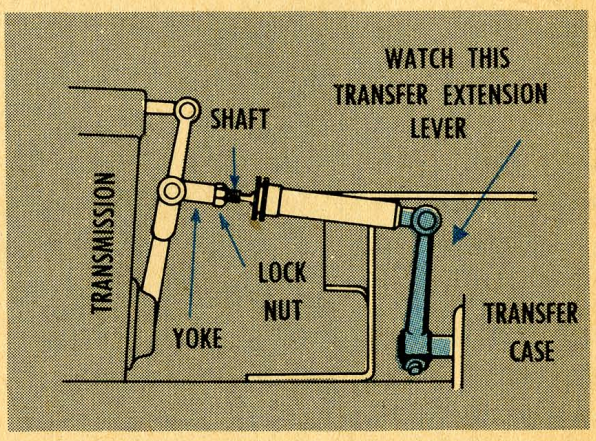


Fig. 2—While you watch this linkage, have someone shift into neutral. The transfer extension-lever should not move during the shift.

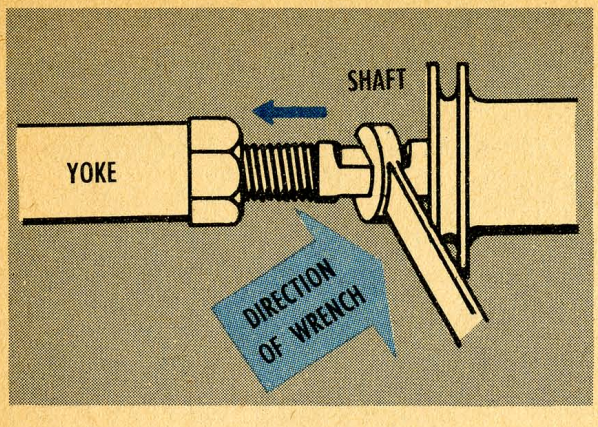


Fig. 3—If the extension lever does move, the link must be shortened. Back off lock nut and turn shaft into yoke.

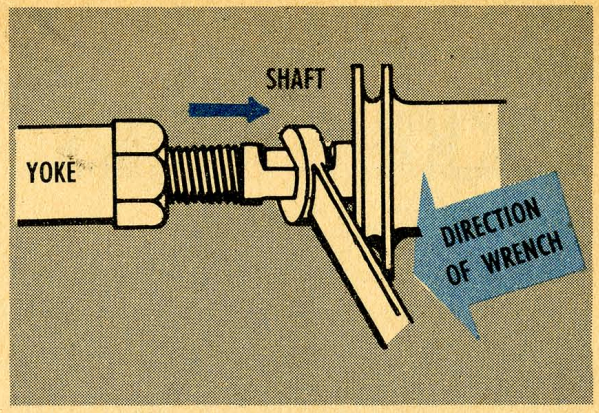


Fig. 4—If lever doesn't move (and adjustment still isn't OK), back off lock nut and turn shaft out of yoke to lengthen link.

THIS IS THE RULE

When the transmission reaches neutral after a shift from first gear, the extension lever should be on the **verge** of moving but it should not actually move. You make the adjustment by turning the shaft either in or out of the yoke until the linkage reaches this borderline condition.

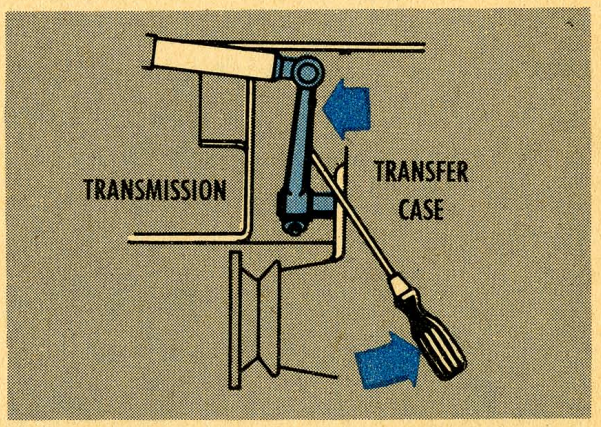


Fig. 5—Check the adjustment: with transmission in neutral, stick screwdriver between lever and transfer case; if lever can't be pried away from transfer, you're OK for forward speeds. If it moves away shorten the link.

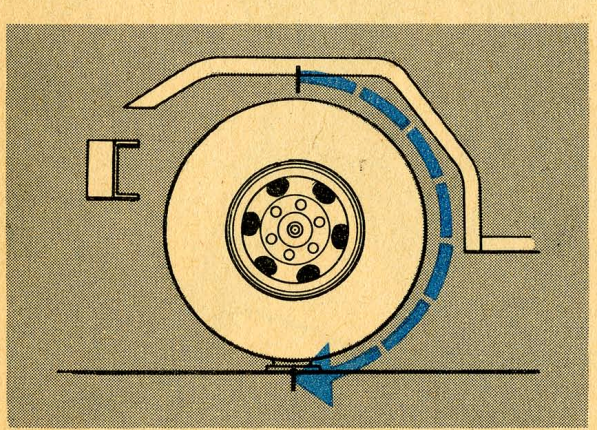


Fig. 6—Shift into reverse. Turn the wheel ½-turn backwards. (When you make these shifts, always turn wheel in direction the shift calls for—also make sure the transmission stays all the way in gear while you're working.)

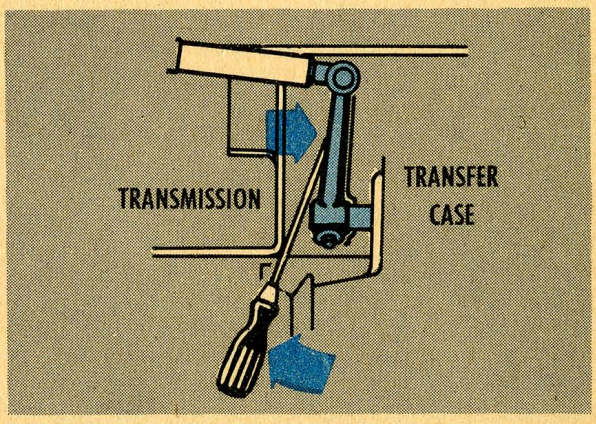


Fig. 7—In reverse gear, try to pry lever towards transfer case. If it moves less than 1/16", you're OK in reverse. If it moves more than 1/16", lengthen the link. Last, you check again as shown in Fig. 5. And that is all.

How to give 'em a good twist

LOCKING WIRES

A few tanks are on the prowl with cap-screws maybe coming loose in their innards. And the guys who build them aren't the only ones who make mistakes—seems that many people repeat the error when rewiring cap-screws.

In general, cap-screws should be wired together in pairs according to size, and if there's an odd number of screws, wire the last three together (Fig. 1). Twist both ends of the wire together the full length between the screws. The wire tension should be in the same direction used to tighten the screws.

Threading all the screws on a single wire (Fig. 2) is a waste of time. A break at any point in the strand will affect all the screws.

Look over your tank—check the final drive, engine, transmission, and universal joints—and see if the cap-screws have that single strand.

Most production vehicles have all the screws on any one unit wired together instead of in pairs. Pairing them off is easier on the back—but either way is OK as long as you have two strands of wire, twisted, with the tension in the tightened direction.

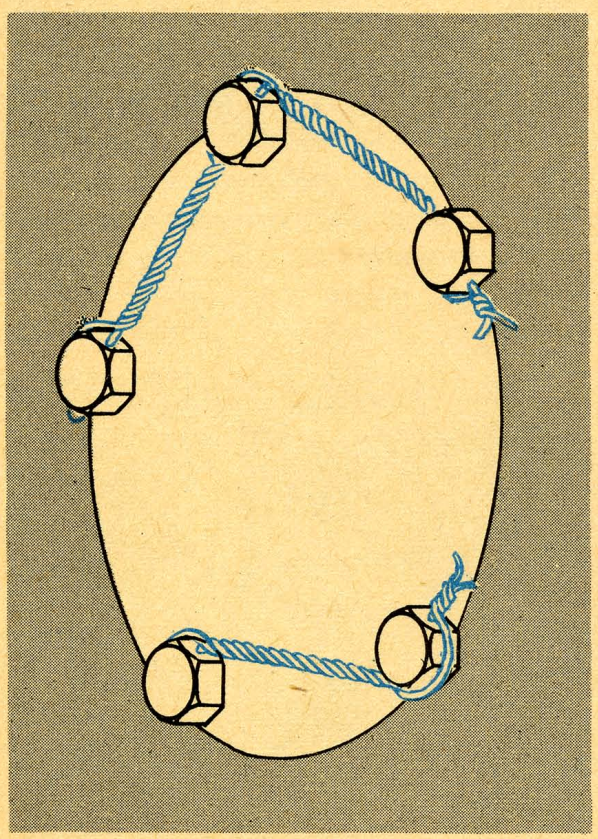


Fig. 1—This is the right way to wire those cap-screws. When they look like this, you know someone's done a real professional job.

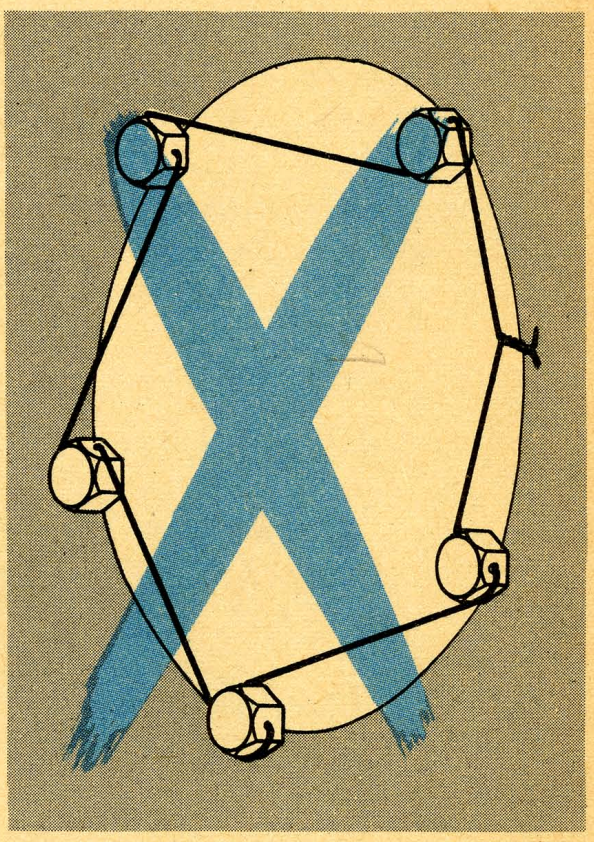


Fig. 2—This is the wrong way. If the wire breaks at any one point along the stretch, you'll have all five cap-screws on the loose.

EXHAUST-STACK EXTENSION

Dear Half-Mast,

I suggest the use of an extension on the M62 wrecker exhaust-stack to divert the blast behind and away from the outrigger shoe. As now made, the exhaust gases soot up the outrigger and the truck bed.

MSgt V. G.

Dear MSgt V. G.,

If you want to soot someplace else, you go right ahead, pal.

Half-Mast

HOLES IN THE BUMPER

Dear Half-Mast,

Those large holes in the front bumper of the GMC M135 have me baffled. What are they for? I've asked around but nobody's got the answer.

WOJG J. M.

Dear WOJG J. M.,

Those holes are just holes—like the hole in a doughnut. There's no stress at the hole location; so-o-o to make a heavy bumper a little lighter, and maybe save a little metal, that's where they punched 'em.

Some people, who think they know all the answers, have been using those holes for the tow-line. Don't know why the heck they do it—it ain't fun to tear off a piece of bumper. Use the shackles. If the shackles have disappeared, replace them. They're an "H" item.

Half-Mast

WELDING MILD STEEL

Dear Half-Mast,

I am looking for information if you can help me. Is there any kind of Welding Flux for a Mild Steel Rod? If there is, is there a publication explaining how to get it?

MSgt A. A.

Dear MSgt A. A.,

Since the electric welding-rods for mild steel are in most cases flux-coated at the factory, I assume you are talking about gas welding. But I am a little at a loss as to why you feel you need a flux for mild steel. Mild steel is one of the few metals that welds beautifully

without fluxes if all the other conditions are right.

If you are having trouble with your mild steel welds, I suggest you check for:

Dirty or corroded base metals or rusty rods.

Improper torch adjustment or wrong size tip.

And are you sure it **is** mild steel you are trying to weld? Lots of the stuff that used to be plain steel is now made of one or another of the alloys, which may call for special treatment in welding.

After checking all this, if you still feel you **gotta** have a flux, use the stuff you have at hand for cast iron or for brazing—or get some Borax, which is the base of most fluxes anyhow. Using these materials won't do you any harm, but all a flux does is remove the oxides, dirt, etc., from the metal and float them up out of the weld to where they can be scaled off later without weakening your joint.

Half-Mast

SPOOK CURRENT

Dear Half-Mast,

In testing around to try and find why some batteries were discharging, I have found that if you ground a Low-Voltage Circuit-Tester voltmeter to your truck and suspend the other lead in the vehicle coolant it will show a reading of about four-tenths of a volt. Where does this "Spook Current" come from?

WO P. M. D.

Dear WO P. M. D.,

Your "Spook Current" is the voltaic current which is always found when two different metals are in the same solution. Frankly, I am surprised that it goes as high as .4 volts—but that's what I think it is. Try filling a tin can with water and a few drops of battery acid and making the same test. It'll show a reading, betcha.

Half-Mast

INTELLIGENCE BULLETINS

Dear Half-Mast,

Strange as it may seem I have just seen PS #1 and 2, and while I'm not in Ordnance (I'm in infantry weapons), I am greatly interested none-the-less. Not only for the information it contains, but because it heralds (I hope) the return of other information booklets such as we had during the last war. Can you tell me if anything comparable to the Enemy Intelligence bulletins is being published or planned?

Also, how can I get PS regularly? I doubt that it will show up in our company again, it being the Marines.

Sgt T. Y. H.

Dear Sgt T. Y. H.,

Cheer up—things are better than they look. The Marine Corps has been Semper Fidelis by getting PS in bulk for redistribution according to automatic formula set up by your headquarters in Washington. They should be available to your unit, for the asking, through your regular supply channels for directives and such.

And there is information available on the handling and usage of foreign ordnance equipment. Your Ordnance officer can write to Chief of Ordnance,

Washington 25, D.C., Attn: ORDGU-IN, and ask for the ST-F series of guides, handbooks, training aids, etc. As for other intelligence information, latest cook-house rumor has it that OCAAF is doing something on it. They could give you more dope on that.

Half-Mast

LOOK BEFORE YOU LUBE

Dear Half-Mast,

Painting a red circle around lubricating fittings and oil holes may be OK, but I've found some vehicles with red circles painted on practically everything from the radiator cap to the brake bleeder-valves. For example, one vehicle had the differential ring-gear thrust-pad and lock-nuts painted red.

To mistake the thrust pads for a level plug could be a costly error—they could be screwed out of adjustment and cause differential failure.

F. L. G.

Dear F. L. G.,

You are right, friend. People who get paint-happy oughta remember that not everyone's gonna know what all the trimming's supposed to mean—to lube or not to lube, perchance to become a nightmare.

The only cure for this calamity is to spread the good word—teach your drivers and mechanics to use the LO when doing a grease job, and not just depend on paint marks. Considering the crime, any method used to carry out this education (including mayhem) should be permissible.

Half-Mast

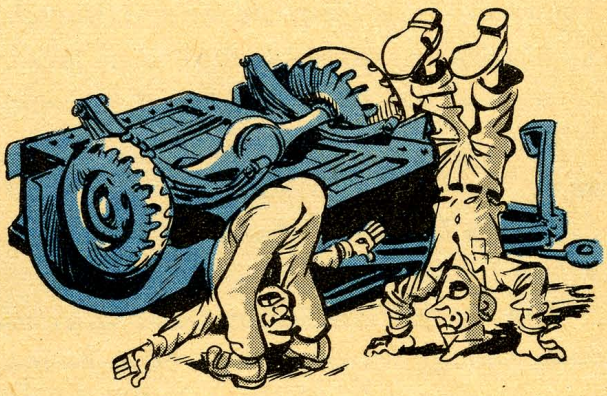
PARKING YOUR M100 TRAILER

Dear Half-Mast,

Would you like to play chaplain and wise us up on this problem?

We got an order that's been causing a lot of arguments to park our M100, ¼-ton trailers **upside down,** *with the front elevated and the wheels in the air. Most of us can't buy the idea. The grease gets washed off all the fittings when it rains, water gets in the spring bushings, and the water that gets in the fender wells can't get out because there's no drain there. Another thing that makes us think they should be parked on their wheels is that there's a drain in the bed to let your water out.*

PFC A. R.



Dear PFC A. R.,

Your argument holds water. SB 9-4 (9 June 52) p. 29, #11 says:

Elevate front end of small 2-wheel open-type trailers and block rear off of ground to eliminate accumulation of water in body. Open drain on ¼-ton trailer.

But, be sure you keep that drain open —open from snow, ice, dirt, or anything you can think of that'll clog it up.

Half-Mast

JOE DOPE

how to adjust headspace on the cal. .50 modified Browning M2 machine gun

As Any Good Gunner Can Tell You . . .

Was a time when headspace adjustment on the cal. .50 M2, heavy barrel, Browning machine gun was something of a curse—the old-type barrel-locking spring was a mite tempermental.

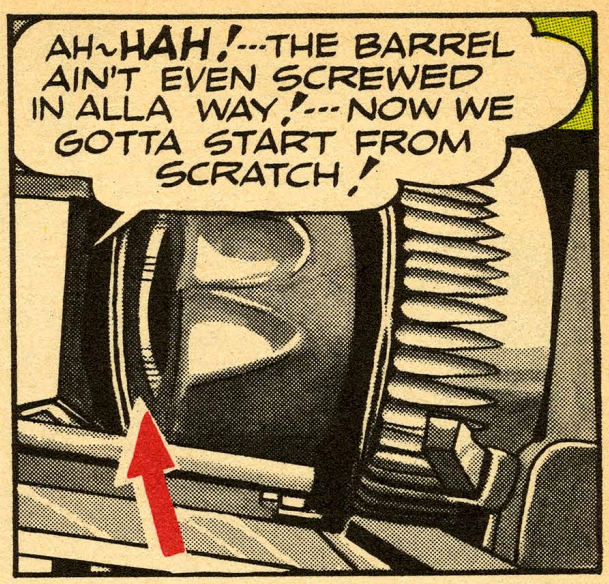
But, those days are past. MWO Ord A39-W13 gave the M2 a 3/8" hole in the right-side receiver-plate and a barrel-locking-spring assembly that really locks.

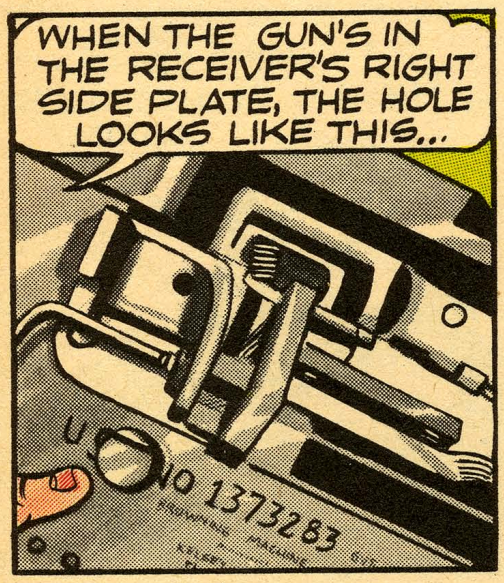
A small lug on the end of the spring is what makes the big difference. It protects headspace adjustment because it locks the barrel so it can't be budged, either by hand or during firing.

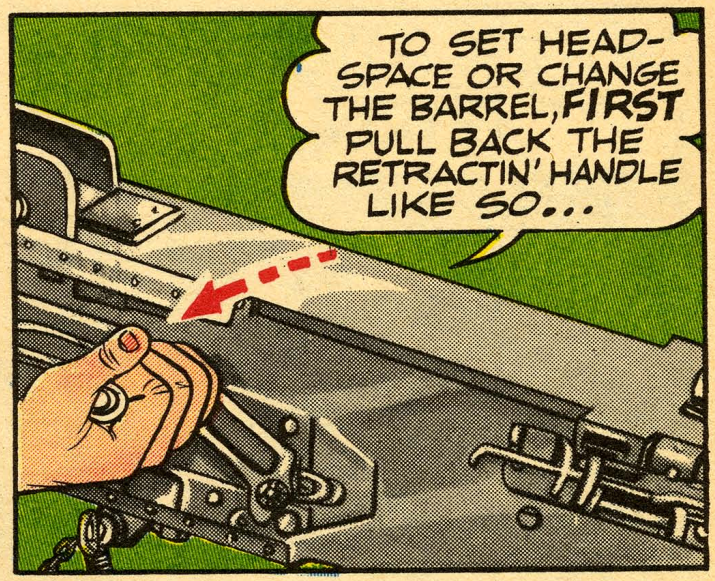
The modification has been around long enough for all M2's to have it—the new headspace adjustment has been around just as long. Still and all, some gunners plugged their ears when headspace adjustment was the subject for the day—others scoff that they can set headspace blindfolded with both hands tied. But when the M2 jams, these people will lose their noses despite their space. The M2, with the wrong headspace adjustment, blows its receiver cover crazy and showers the vicinity with ruptured brass.

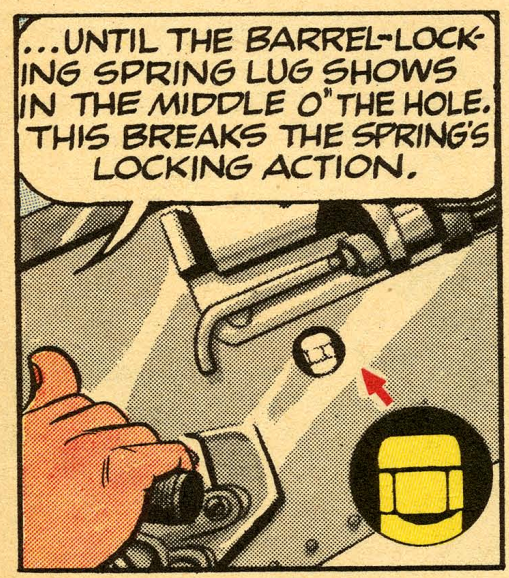
If you haven't seen Change 4 (para. 11) to FM 23-65, read on, chum.

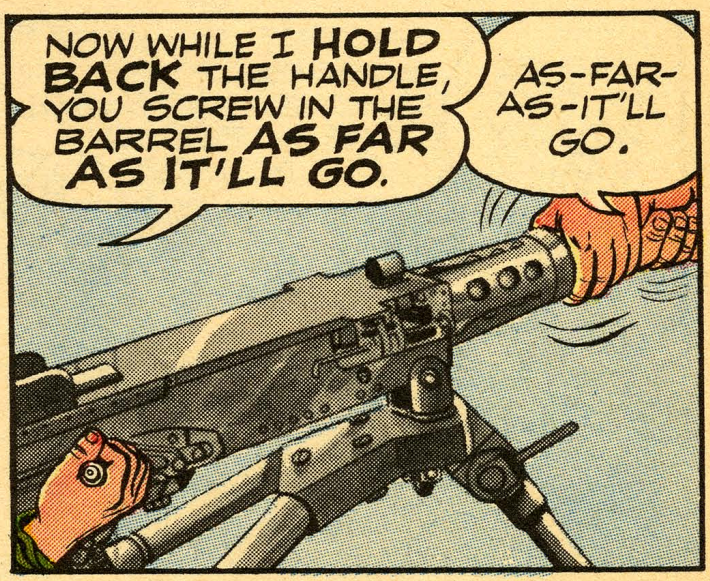
HEADSPACE? AIN'T CHANGED NONE IN 24 HOURS...I DON'T THINK!
NO, THE HEADSPACE IN THE GUN...LOOK DOWN TH' RECEIVER!

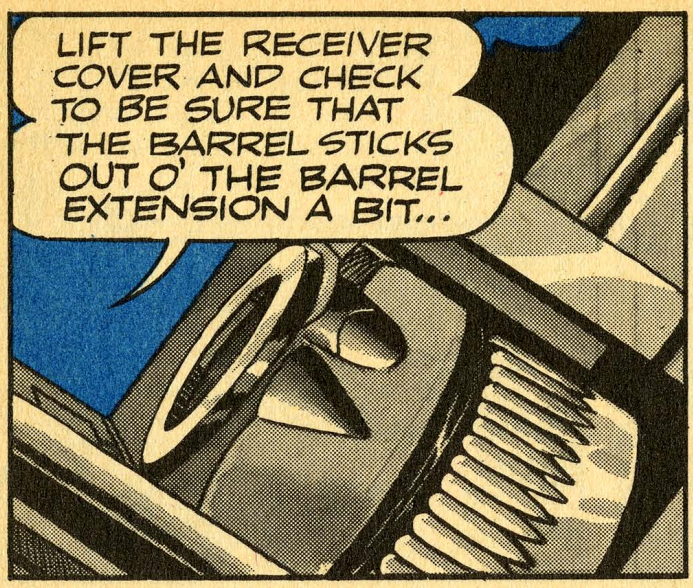

AH~HAH!---THE BARREL AIN'T EVEN SCREWED IN ALLA WAY!---NOW WE GOTTA START FROM SCRATCH!


WHEN THE GUN'S IN THE RECEIVER'S RIGHT SIDE PLATE, THE HOLE LOOKS LIKE THIS...
U.S. NO 1373283

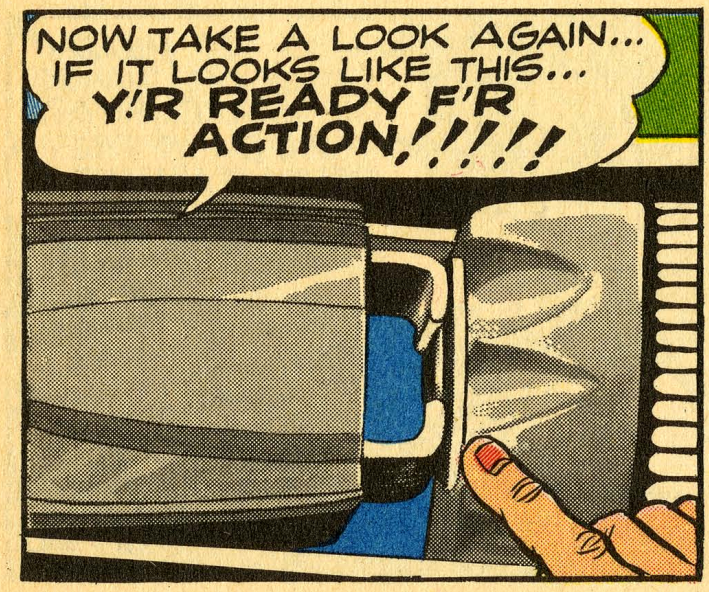

TO SET HEAD-SPACE OR CHANGE THE BARREL, FIRST PULL BACK THE RETRACTIN' HANDLE LIKE SO...

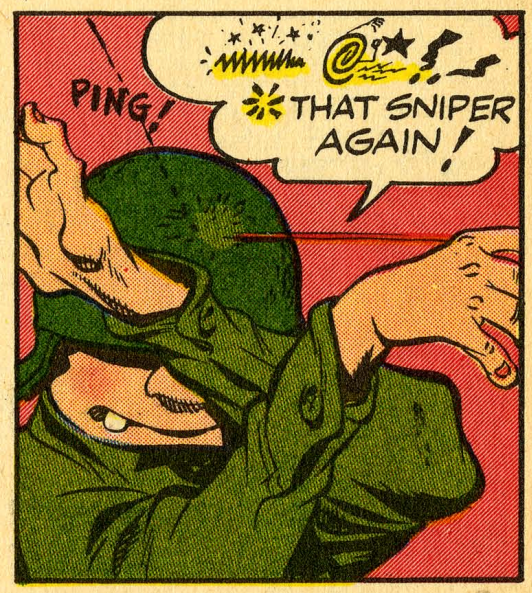

...UNTIL THE BARREL-LOCK-ING SPRING LUG SHOWS IN THE MIDDLE O" THE HOLE. THIS BREAKS THE SPRING'S LOCKING ACTION.

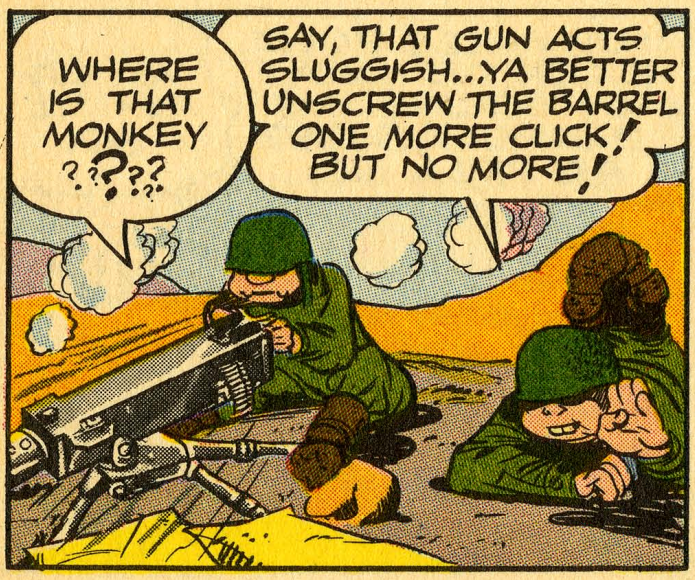

NOW WHILE I HOLD BACK THE HANDLE, YOU SCREW IN THE BARREL AS FAR AS IT'LL GO.
AS-FAR-AS-IT'LL GO.


LIFT THE RECEIVER COVER AND CHECK TO BE SURE THAT THE BARREL STICKS OUT O' THE BARREL EXTENSION A BIT...

NOW Y'READY TO SET THE HEADSPACE. UN-SCREW THE BARREL TWO CLICKS AND LEGGO THE RETRACTIN' HANDLE...AN' IT'S DONE.


NOW TAKE A LOOK AGAIN... IF IT LOOKS LIKE THIS... Y'R READY F'R ACTION!!!!!


PING!
THAT SNIPER AGAIN!

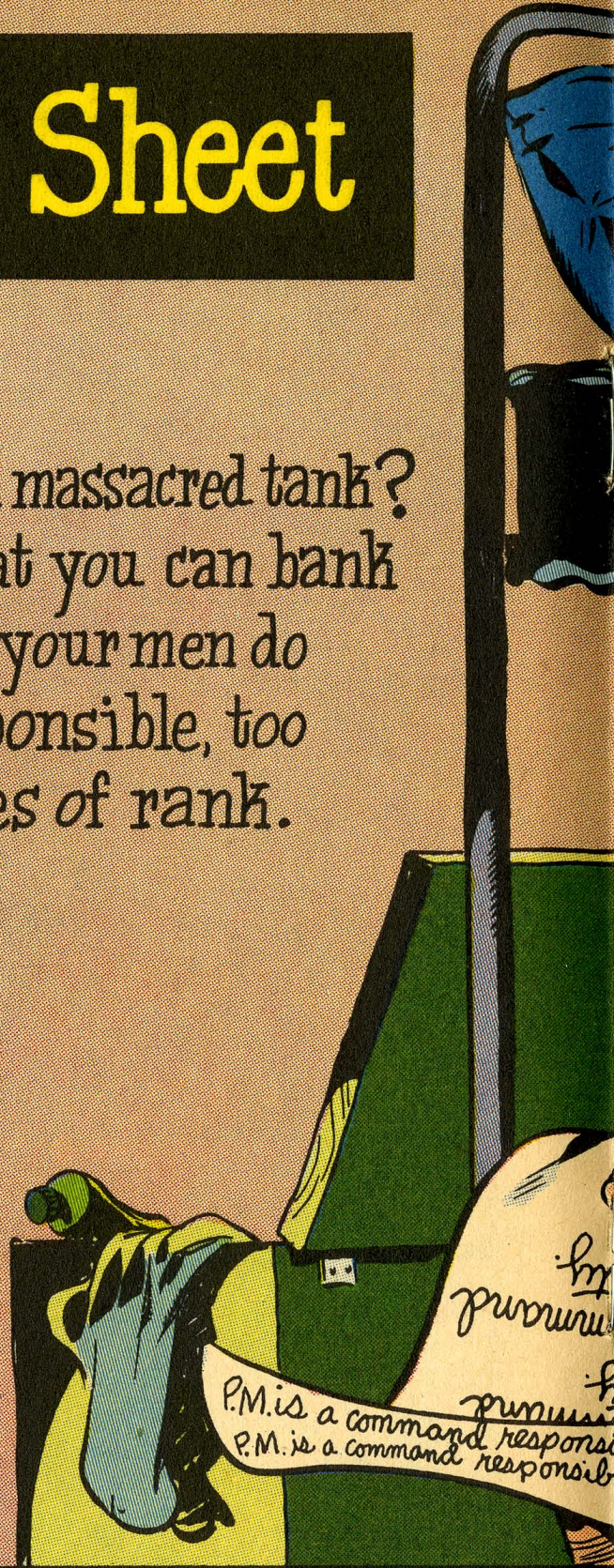

WHERE IS THAT MONKEY ??? ??
SAY, THAT GUN ACTS SLUGGISH...YA BETTER UNSCREW THE BARREL ONE MORE CLICK! BUT NO MORE!

OKAY! YA DON'T EXPECK ME TO GO THROUGH THAT OPERATION ALONE...?... WITH THIS HOT BARREL AND ALL...
WHY NOT?

A HEFTY GUY WITH A REACH CAN SET HEADSPACE BY HIMSELF! USE THE CARRY'N HANDLE IF IT'S HOT!
...OR ANYBODY CAN DO IT WITH A CAL. .50 LINK! RAISE THE RECEIVER COVER...PULL BACK THE RETRACTIN' HANDLE AGAIN 'TILL THE LUG'S IN THE HOLE AND...
...STICK THE LINK'S SMALL END BETWEEN THE BARREL EXTENSION AN' THE TRUNNION BLOCK...THIS'LL HOLD THE GUN OUTA BATTERY WHILE YA TURN THE BARREL.
AGAIN!
HOLD YA FIRE---I'LL GET 'IM!
NO, NO---JOE, NO! YA'LL BE MASSACREED! BY--- I CAN'T LOOK!
C'MOUTA THERE, YOU--!
I GOT 'IM! HEY, FOS--- --- HUH--- HE PASSED OUT!

JOE'S Dope Sheet

Who's to blame for each massacred tank?
'Tis a problem---on that you can bank
For the things your men do
You're responsible, too
It goes with the glories of rank.



WE HAVE THE WORLD'S BEST EQ

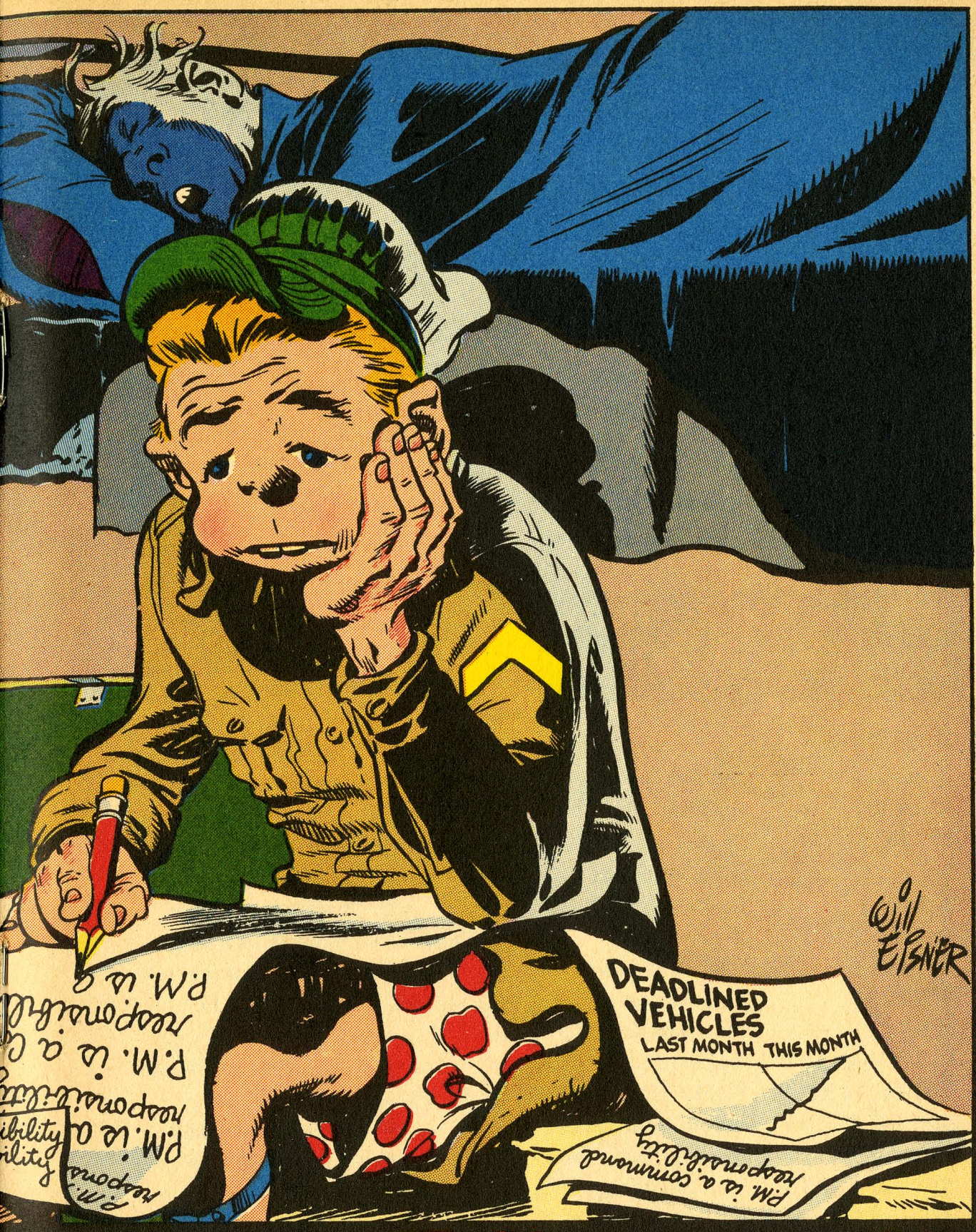
PRODUCED UNDER SPECIAL LICENSE TO U. S. DEPT. DEFENSE COPR. 1953 WILL EISNER PRODUCTI

JOE'S Dope Sheet

Who's to blame for each massacred tank?
'Tis a problem---on that you can bank
For the things your men do
You're responsible, too
It goes with the glories of rank.

WE HAVE THE WORLD'S BEST EQUIPMENT.. Take care of it

PRODUCED UNDER SPECIAL LICENSE TO U. S. DEPT. DEFENSE COPR. 1953 WILL EISNER PRODUCTIONS



QUIPMENT.. *Take care of it*

IONS

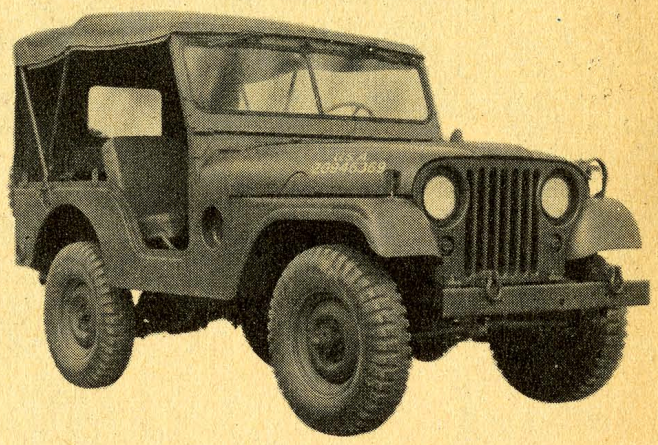
Once A Year, In Anybody's Business, It's Time To

TAKE STOCK

Since you first got what you're rolling, crawling, or towing over the countryside, there's been some changes made. Anywhere from a few to a few thousand—depending on which items of stock you're T/E'd with.

It is hoped that all the changes have been for the best—either in performance, economy, comfort, safety, or main thing of all, my friend, to make you happy.

In any case, the following list of clues is offered as your guide to good sources of information which PS hopes'll help you get the most out of most everything.



M38 and M38A1, UTILITY, 1/4-ton 4x4 WILLYS JEEP

DIRECTIVES

TB Ord 445	Fuel-Tank Pressure
TB Ord 487	Fuel Filters
TB 9-804-1	Oil Filter Line
TB 9-804-2	Brake-Line Rupture
TB 9-804-3	Shackle-Pin Retaining Clip
TB 9-804-6	Vapor Lock
TB 9-1859-1	Time Schedule Guide
TB 9-2855-2	Personnel Heater Kit
TB 9-2855-3	Power Plant Heater Kit
TB 9-2855-4	Hard Top Kit
MWO Ord G1-W35	Positive Polarizing Device
MWO Ord G740-W1	Relocate Circuit Breaker
MWO Ord G740-W2	Deactivate Primer Pump
MWO Ord G740-W3	Rear-Axle-Housing Baffle
MWO Ord G740-W4	Bell Housing
MWO Ord G740-W5	Ignition-Switch Positions
LO 9-804	M38
LO 9-804A	M38A1

PS MAGAZINE ARTICLES

M38 Truck

PAGE NO.	ISSUE NO.	SUBJECT
13	1	Missing electrical connections
82	2	Flexible-oil-line fix
82	2	Oil-filter-disc adjustment
83	2	Longer low-tension leads
83	2	Circuit breaker move
83	2	Brake-hose-clamp fix
88	2	Lifting sling
90	3	Cylinder head leaks
101	3	Fan blades revamped
137	4	Using the new instruments
166, 266	4, 6	Safety-chain fix
166	4	Cracked windshields
167	4	Speedometer cable caution
168	4	Fuel filter care
168	4	Valve adjustment
169	4	Valve number mix-up
188	5	Battery-post caution
200	5	Erratic engine idling
201	5	Kinks in oil lines
201	5	Slip-joint alinement
202	5	Tailgate-support fix

PAGE NO.	ISSUE NO.	SUBJECT
202	5	Steering-housing lube
202	5	Water in manifold
202	5	Air in gas lines
203	5	Front wheel rubbing
203	5	Crankcase oil diluting
215	5	Brake-pedal hazard
3C, 225	5, 6	Gas in air cleaners
3C	5	Starting the M38
225	6	Engine hood fix
226	6	Easy hub removal
226	6	Sluggish carburetors
227	6	Ignition timing
227, 329	6, 8	Spark-plug resistor fix
230	6	Brake-cylinder cap change
233	6	Pressure in gas tank
233	6	Gas-tank drain caution
250	6	Exhaust deflector
251	6	Fuel pump removal
251	6	Seat fix
257	6	Avoid vapor lock
276	7	Rid oil of gas
282	7	New shock absorbers
290	7	Cooling system fix
290	7	Turning radius fix
290	7	New brake bolts & cables
291	7	Grease in speedometer
292	7	New ignition plate
292	7	Brake lines chafe horn wire
292	7	Wet map-compartment
312	7	Remove drain plug
321	8	Battery lifter
324	8	Loose brake cap-screws
340	8	Starter-pinion travel tool
358	8	Rear-axle oil leak
360	8	Sending-unit fix
3C	8	Steering-wheel hole
366	9	Throttle tube care
366	9	Cuno filter fix
367	9	Differential cover UER
367	9	Fuel line relocation
368	9	Distributor vacuum
368	9	Trailer connector fixes
395	9	Proper engine oil
426	10	OE discoloration
453	10	Circuit-breaker fix
453	10	Lock washer remover
3C	10	Tire inflation data
3C	10	2HN batteries
503	11	Valve-adjusting tool
504	11	Fuel pump removal
512	12	Valve rotator-cap breakage
513	12	Loose 24-volt connectors
M38A1 Truck		
137	4	Using new instruments
414	10	M38 and M38A1 comparison
418	10	New steering ratios
418	10	Ignition timing
3C	10	Tire inflation data
465	11	New F-head engine
466	11	Sealed bell-housing
466	11	Timing-mark location
466	11	Universal-joint care
503	11	Valve-adjusting tool
504	11	Fuel pump removal
530	12	Battery repair

TECHNICAL MANUALS & CATALOGS

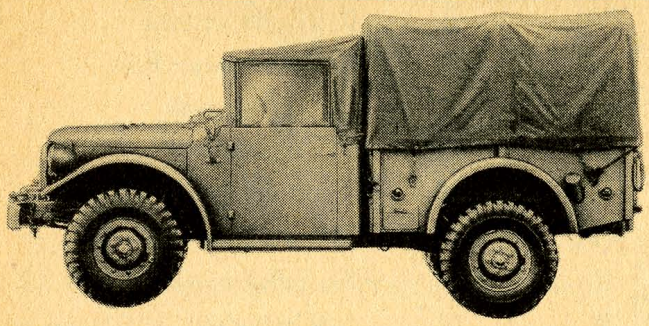
M38

TM 9-804	Operators Manual
TM 9-1804A	Engine & Clutch
TM 9-1804B	Power Train
SNL G740	

M38A1

TM 9-804A	Operators Manual
TM 9-1804AA	Engine & Clutch
TM 9-1804AB	Power Train
SNL G758	

M37 3/4-ton, 4x4 DODGE CARGO TRUCK



TB 9-840-4	Shift-Diagram Plate Markings
TB 9-1840-1	Rear Axle Replacement
TB 9-1859-2	Time Schedule Guide
MWO Ord G1-W35	Positive Polarizing Device
MWO Ord G741-W1	Deactivate Primer Pump
LO 9-840	

DIRECTIVES

TB Ord 483	Transfer Linkage Adjustment
TB Ord 487	Fuel Filters
TB 9-840-1	Transfer Assembly Shift
TB 9-840-2	Door Glass and Weatherstrip

PS MAGAZINE ARTICLES

PAGE NO.	ISSUE NO.	SUBJECT
55	2	Body bolt maintenance
98	3	Transfer-case UER
137	4	Using the new instruments
162	4	Starter-switch fix
163	4	Hard steering fix

M34 2-1/2-ton 6x6 CARGO TRUCK (REO & STUDEBAKER)

MWO Ord G742-W6	Deactivate Primer Pump
LO 9-819	

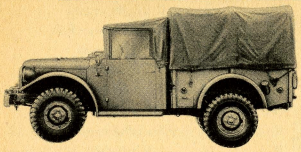
DIRECTIVES

TB Ord 444-3	Hoist & Towing Tool Set #7
TB Ord 444-7	Auto Basic Shop Set Layout
TB Ord 444-8	Welding Shop Set Layout
TB Ord 487	Fuel Filters
TB 9-819-2	Common Tool Set #2 Layout
TB 9-819-3	Engine Exhaust Nuts
TB 9-819-4	Truck Mount M36A1
TB 9-819-5	Brake Cylinder Filler Cap
TB 9-819-6	Steering-Knuckle Boot
TB 9-819-9	Wheel Bearing Adj. Nut
TB 9-819-10	Water Pump Inner-Bearing
TB 9-819-11	Flywheel Housing Drain Plug
TB 9-1819B-1	Transmission Roller Bearings
TB 9-1859-3	Time Schedule Guide
MWO Ord G1-W35	Positive Polarizing Device
MWO Ord G742-W1	Battery Hold-Down-Frame
MWO Ord G742-W2	Cab Assembly Reinforcement
MWO Ord G742-W3	Over-Running Clutch (Reo)
MWO Ord G742-W4	Fan Radiator Core

PS MAGAZINE ARTICLES

PAGE NO.	ISSUE NO.	SUBJECT
13	1	Axle-lube revision
50	2	Radiator relocation
50	2	Fan blades shortened
51, 77	2	Fording tips
51	2	Correct oil readings
77, 187, 310, 406	2, 5, 7, 9	CV-joint boot UER
77	2	Exhaust fixes
77	2	Gas-tank pressure
77	2	WB oil-seal caution
77	2	Brake assembly painting
81	2	Spring-seat care
87	2	Transfer-shift fix
96	3	Breather valve caution
97	3	Ignition cable care
137	4	Using the new instruments
160	4	Oil-pan tool
162	4	Starter-switch fix
173, 360	4, 8	Exhaust fume cure
3C	4	Battery-cable short fix

M37 3/4-ton, 4x4 DODGE CARGO TRUCK



DIRECTIVES

TB Ord 483	Transfer Linkage Adjustment
TB Ord 487	Fuel Filters
TB 9-840-1	Transfer Assembly Shift
TB 9-840-2	Door Glass and Weatherstrip
TB 9-840-4	Shift-Diagram Plate Markings
TB 9-1840-1	Rear Axle Replacement
TB 9-1859-2	Time Schedule Guide
MWO Ord G1-W35	Positive Polarizing Device
MWO Ord G741-W1	Deactivate Primer Pump
LO 9-840	

PS MAGAZINE ARTICLES

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M34 2-1/2-ton 6x6 CARGO TRUCK (REO & STUDEBAKER)

DIRECTIVES

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TB Ord 444-8	Welding Shop Set Layout
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TB 9-819-4	Truck Mount M36A1
TB 9-819-5	Brake Cylinder Filler Cap
TB 9-819-6	Steering-Knuckle Boot
TB 9-819-9	Wheel Bearing Adj. Nut
TB 9-819-10	Water Pump Inner-Bearing
TB 9-819-11	Flywheel Housing Drain Plug
TB 9-1819B-1	Transmission Roller Bearings
TB 9-1859-3	Time Schedule Guide
MWO Ord G1-W35	Positive Polarizing Device
MWO Ord G742-W1	Battery Hold-Down-Frame
MWO Ord G742-W2	Cab Assembly Reinforcement
MWO Ord G742-W3	Over-Running Clutch (Reo)
MWO Ord G742-W4	Fan Radiator Core
MWO Ord G742-W6	Deactivate Primer Pump
LO 9-819	

PS MAGAZINE ARTICLES

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77	2	Exhaust fixes
77	2	Gas-tank pressure
77	2	WB oil-seal caution
77	2	Brake assembly painting
81	2	Spring-seat care
87	2	Transfer-shift fix
96	3	Breather valve caution
97	3	Ignition cable care
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162	4	Starter-switch fix
173, 360	4, 8	Exhaust fume cure
3C	4	Battery-cable short fix

PAGE NO.	ISSUE NO.	SUBJECT
163	4	Fuel-line fix
164	4	Window weatherstripping
171	4	Transfer-case fix
232	6	Brake-shoe setting
233	6	Gas-tank-cap switch
248	6	Seating brake linings
251	6	Fuel-pump removal
276	7	Rid oil of gas
321	8	New battery lifter
323	8	Transfer-case shifting
324	8	Pioneer-bracket fix
422	10	Brake-line relocation
453	10	Brake-spring-plier guide
455	10	Wheel-bearing fix
456	10	Tarpaulin bow stowage
3C	10	2HN Batteries
472	11	Brake adjustment
530	12	Battery repair
3C	12	Map-light outlet

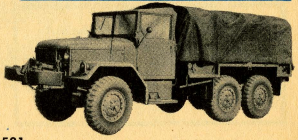
TECHNICAL MANUALS & CATALOGS

TM 9-840	Truck, M37
TM 9-1840A	Engine & Clutch
TM 11-2725, C1	Radio Equipment Installation
SNL G741	

PAGE NO.	ISSUE NO.	SUBJECT
188	5	Battery post caution
189	5	Winch shear-pin caution
215	5	Air-compressor care
216, 281	5, 7	Lubing wheel bearings
218	5	Throttle stop-screw caution
218	5	Towing tips
219	5	Hood support-rod use
219, 312 359	5, 7, 8	Oily clutch fix
220	5	Water in gas tank, cure
230	6	Brake-cylinder cap change
233	6	Gas-tank cap caution
275	7	Steering-gear bolt care
323	8	Insulating battery terminals
328	8	New flat-bed M35
341	8	Steering-knuckle assembly
341	8	Fuel strainer care
343	8	Transfer-case tool
357	8	Hood safety-catch fix
359	8	Oil-pan tool
373	9	Winch adjustment
374	9	Piston skirt breakage
421	10	Cooling system caution
424	10	New tire pressure
438	10	Compression-tube UER
453	10	Lock-washer tool
454	10	Parking brake fix
501	11	Electric brake kit
509	12	Battery jumper-cable-fix
514	12	Synchro-mesh transmission
530	12	Battery repair
3C	12	Winch lube-levels

TECHNICAL MANUALS & CATALOGS

TM 9-819	Truck, M34
TM 9-1819A	Engine
TM 9-1819B	Power Train
TM 9-1826D	Holly Carburetors
TM 11-2709	Radio Equipment Installation
SNL G742	



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TECHNICAL MANUALS & CATALOGS

TM 9-840	Truck, M37
TM 9-1840A	Engine & Clutch
TM 11-2725, C1	Radio Equipment Installation
SNL G741	

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275	7	Steering-gear bolt care
323	8	Insulating battery terminals
328	8	New flat-bed M35
341	8	Steering-knuckle assembly
341	8	Fuel strainer care
343	8	Transfer-case tool
357	8	Hood safety-catch fix
359	8	Oil-pan tool
373	9	Winch adjustment
374	9	Piston skirt breakage
421	10	Cooling system caution
424	10	New tire pressure
438	10	Compression-tube UER
453	10	Lock-washer tool
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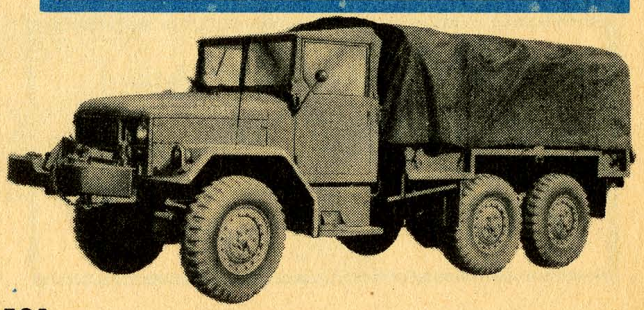
TECHNICAL MANUALS & CATALOGS

TM 9-819	Truck, M34
TM 9-1819A	Engine
TM 9-1819B	Power Train
TM 9-1826D	Holly Carburetors
TM 11-2709	Radio Equipment Installation
SNL G742	



M135 2-1/2-ton 6x6 CARGO TRUCK (GMC)

DIRECTIVES

TB Ord 487	Fuel Filters
TB 9-819A-1	Hydramatic Front-Band
TB 9-819A-2	OE Dipstick Guide-Tube
TB 9-819A-4	Rust Preventive Oil
TB 9-1859-4	Time Schedule Guide
TB 9-2815-16	Power Plant Heater Kit
MWO Ord G1-W35	Positive Polarizing Device
MWO Ord G749-W2	Primer Pump Deactivation
MWO Ord G749-W3	Eliminate Oil Leaks
MWO Ord G749-W6	Oil Leaks Output Shaft
MWO Ord G749-W7	Reduce Leakage
MWO Ord G749-W8	Increase Clutch Lube
LO 9-819A	

TECHNICAL MANUALS & CATALOGS

TM 9-819A	Truck, M135
TM 9-1819AA	Engine
TM 9-1819AB	Hydramatic Transmission
TM 9-1819AC	Power Train
SNL G749	

PS MAGAZINE ARTICLES

PAGE NO.	ISSUE NO.	SUBJECT
137	4	Using the new instruments
233	6	Gas-tank-cap switch
252	6	Transmission operation
276	7	Rid oil of gas
283	7	Transmission adjustment
283, 438	7, 10	OE dipstick fixes
283	7	Brake backing-plate caution
283	7	Radiator-brace-rod clip
322	8	Starter linkage fix
328	8	New flat-bed XM211
376	9	Air-hose-coupling fix
376	9	#6 exhaust-valve caution
376	9	Steering trunnion fix
405	9	Blackout-marker fix
423	10	Transmission dipstick fix
468	11	Gas valve protector
469	11	Generator bracket fix
501	11	Electric-brake kit
504	11	Grab-handle installation
509	12	Battery hold-down fix
512	12	How to reverse the M135
530	12	Battery repair

M52 5-ton 6x6 TRUCK-TRACTOR (DIAMOND-T)

DIRECTIVES

TB Ord 279	W/S Wiper Regulator Valve
TB Ord 487	Fuel Filters
MWO Ord G1-W35	Positive Polarizing Device
MWO Ord G744-W1	Cab Assembly Reinforcement
MWO Ord G744-W2	Deactivate Primer Pump
LO 9-837	

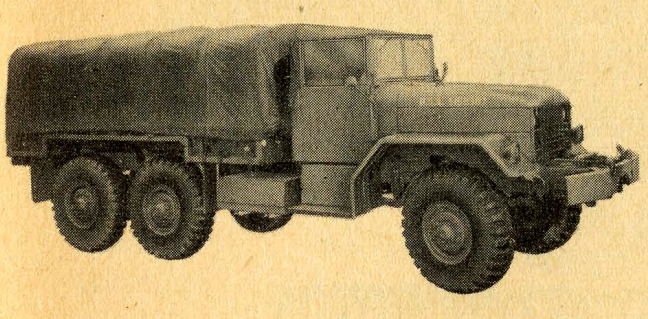
TECHNICAL MANUALS & CATALOGS

TM 9-837, C1 & C2	Truck, M52
SNL G744	

PS MAGAZINE ARTICLES

PAGE NO.	ISSUE NO.	SUBJECT
137	4	Using the new instruments
206	5	Winch troubles
250	6	Winch-roller fixes
342	8	New brake air-pressure
342	8	Trailer brake-hose fix
422	10	Fractured fender fix
483	11	Oil-filter leak fix
501	11	Electric brake kit
3C	11	Oily clutch fix
530	12	Battery repair
3C	12	Oil-cooler leak fix

M41 5-ton CARGO TRUCK 6x6 (IHC)
M51 5-ton DUMP TRUCK 6x6 (IHC)



DIRECTIVES

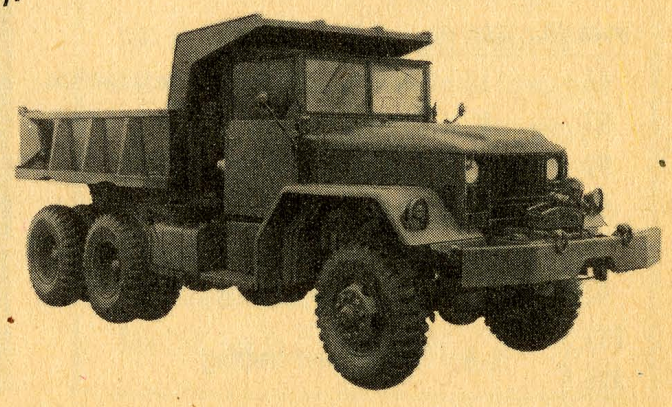
TB Ord 279	W/S Wiper Regulator Valve
TB Ord 445	Fuel Tank Pressure
TB Ord 487	Fuel Filters
TB 9-837-1	Splash Shield Ext. (M51, only)
TB 9-837-2	Tailgate Wing Chain Hook
TB 9-1859-5	Time Schedule Guide
MWO Ord G1-W35	Positive Polarizing Guide
MWO Ord G744-W1	Cab Assembly Reinforcement
MWO Ord G744-W2	Deactivate Primer Pump
LO 9-837	

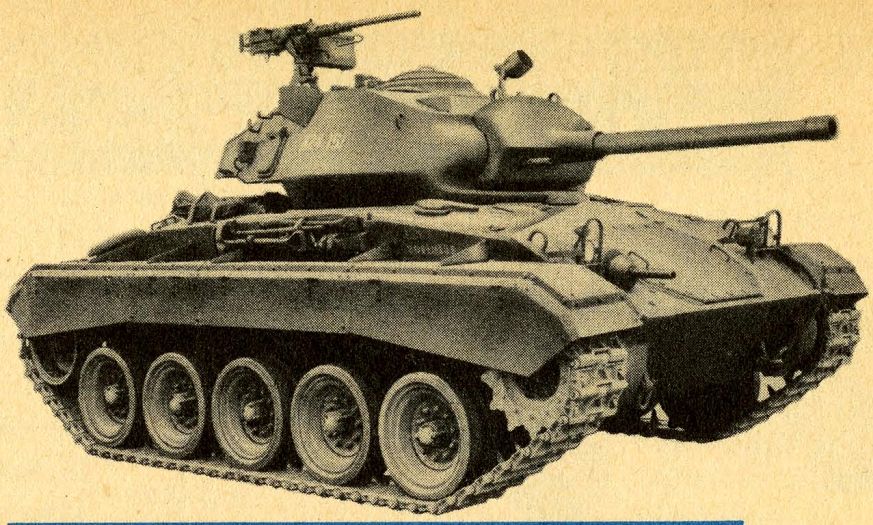
PS MAGAZINE ARTICLES

PAGE NO.	ISSUE NO.	SUBJECT
86, 259	2, 6	Fan belt failures
137	4	Using the new instruments
3C	4	Battery cable shorts
207	5	Tailgate lock fix (M51 only)
208	5	Engine-oil dipstick UER
208	5	Transmission oil level
209	5	Oil sending-unit relocation
209	5	Deiseling action
210	5	Clutch return-spring fix
210	5	Fan shroud interference
210	5	Engine removal
211	5	Loose governor mounts
211	5	Transfer linkage fix
212	5	Emergency-brake fire hazard
212	5	Loose w/s wiper mountings
213	5	Gas tank protector
233	6	Gas tank pressure
250	6	Winch-roller-support fix
258	6	Winch-clutch caution
276	7	Rid oil of gas
342	8	Clutch-plate cap-screws
342	8	New brake air-pressure
422	10	Fractured fender fix
483	11	Oil-filter leak fix
501	11	Electric brake kit
3C	11	Oily clutch fix
530	12	Battery repair
3C	12	Oil-cooler leak fix

TECHNICAL MANUALS & CATALOGS

TM 9-837	Truck, M41, M51
TM 9-1837A	Engine & Clutch
TM 9-1837B	Power Train
TM 9-1837D	Dump & Hoist (M51 only)
SNL G744	





LIGHT TANK M24, 75mm GUN

DIRECTIVES

TB Ord 191	Hydraulic Valve Lifter
TB Ord 255	75mm Gun
TB Ord 456	Track Link Wedge Bolts
TB Ord FE 49	Mounting, Cal. .50 M2
TB 9-1313-1	Recoil Oil Leaks
MWO Ord A55-W13	Machine Gun Modification
MWO Ord A55-W15	Clip Chute Bag Hook-up
MWO Ord A55-W17	Ammunition Jamming
MWO Ord C66-W1	Recoil Support Cylinder
MWO Ord C66-W2	Clip Chute & Bag
MWO Ord C66-W3	Breech Ring Key
MWO Ord G1-W17	Azimuth Indicator
MWO Ord G1-W18	Tow Cable Coupling
MWO Ord G200-W1	Horn Replacement
MWO Ord G200-W2	Fan Vibration
LO 9-729	

PS MAGAZINE ARTICLES

PAGE NO.	ISSUE NO.	SUBJECT
43	1	Transmission-transfer case caution
91	3	Driving Pointers
92	3	Frozen hatch-latches
92	3	Clogged carburetors
93	3	Ammunition stowage
93	3	Tactical precaution
217, 233	5, 6	Engine over-heating
246	6	Platinum-tip plug salvage
372	9	Operating precautions

TECHNICAL MANUALS & CATALOGS

TM 9-313	M6 Gun, M64 Mount
TM 9-1313	M6 Gun, M64 Mount
TM 9-729	Tank, M24
TM 9-1602	Periscope Mounts
TM 9-1729A	Cooling & Fuel Systems
TM 9-1729B	Power Trains
TM 9-1729C	Tracks, Suspension, Hull and Turret
TM 9-1731D	Azimuth Indicators
TM 9-1825D	Electrical Equipment (Westinghouse)
TM 11-2754	Radio & Telephone Equipment
FM 17-75	Crew Drill
SNL A55, Sec 38	Mount Cal. .50
SNL A55, Sec 46	Mount Cal. .30
SNL G66	Gun and Mount M64
SNL G200	Tank, M24
SNL J16, Sec 46	Tool Sets

MEDIUM TANK M4A3, 75mm GUNS M2 & M3

DIRECTIVES

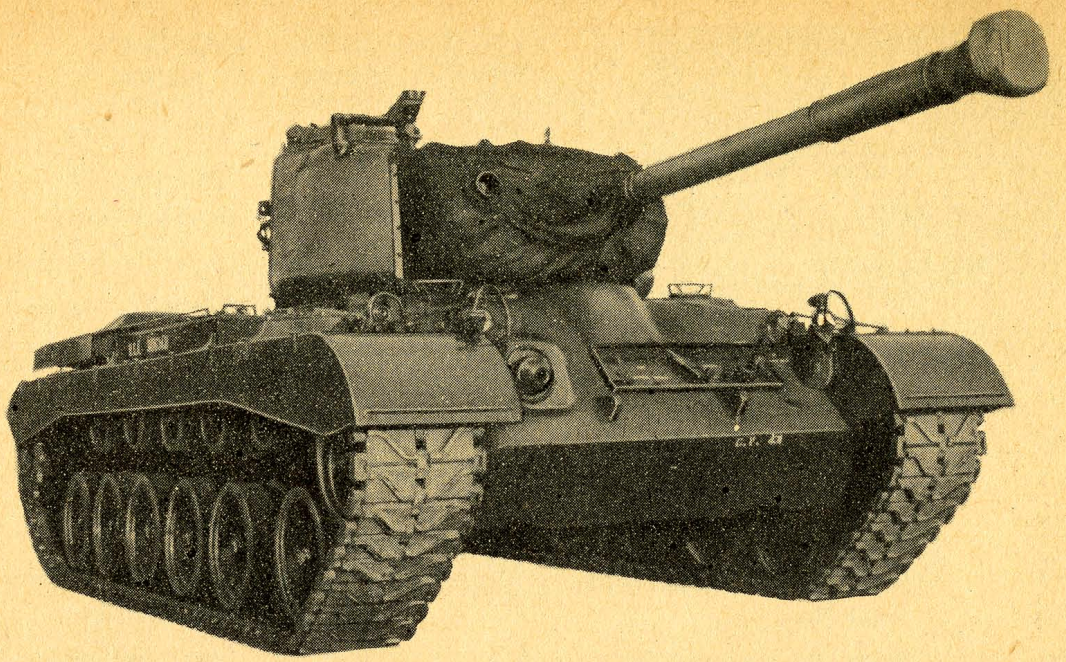
TB Ord 11	Turret Bearing-Race
TB Ord 30	Hydraulic Traverse- Mechanism
TB Ord 41	Rear Idler Track
TB Ord 70	Descending Steep Grades
TB Ord 83	Steering-Brake Adjustment
TB Ord 95	Spark Plugs
TB Ord 96	Electric Oil-Pressure-Gages
TB Ord 116	Bogie Wheel Interchangeability
TB Ord 125	Track Connecting Fixture
TB Ord 131	Oil Level Data
TB Ord 148	Fuel Tank Seal & Vent
TB Ord 151	Transmission Oil-Return-Line
TB Ord 152	Disc-Type Idler Wheel
TB Ord 154	Pinion-Gear Shimmy
TB Ord 180	High-Idle Control Removal
TB Ord 381	Ammudamp Discontinues
TB Ord 1731B-5	Engine Conversion
TB Ord FE 5	Tachometer Installation
TB Ord FE 29	Fuel-Line Safety-Valve
TB 9-307-4	Trigger Adjustment
MWO Ord A55-W16	Clip Chute & Bag
MWO Ord A55-W17	Ammunition Jamming
MWO Ord G1-W17	Azimuth Indicator
MWO Ord G1-W18	Tow Cable Hook-up
MWO Ord G1-W19	Hatch-Door-Bolt Pin
MWO Ord G1-W31	Gun-Traveling Lock
MWO Ord G104-W75	Door Lock
MWO Ord G104-W108	Machine Guns
MWO Ord G104-W113	Bulldozer Tank Periscope
MWO Ord G204-W1	Commander's Vision Cupola
LO 9-759	Tank, M4A3
LO 9-759-1	105-Howitzer
LO 9-759-2	76mm Gun

PS MAGAZINE ARTICLES

PAGE NO.	ISSUE NO.	SUBJECT
42	1	Track Idler care
72	2	Spark-plug tool
91, 136	3, 4	Driving pointers
92	3	Frozen hatch-latches
92	3	Clogged carburetors
93	3	Ammunition stowage
93	3	Tactical precaution
136	4	Clogged radiators
144	4	Obsolete magnetos
246	6	Platinum-tip plug salvage
292	7	Oil-pressure sending-units
372	9	Operating tips
425	10	Tach speed caution

TECHNICAL MANUALS & CATALOGS

TM 3-362	Flame Thrower
TM 9-307	Guns & Mounts
TM 9-757	Twin 40 Motor Carriage
TM 9-759	Tank, M4A3
TM 9-1307	Guns & Mounts
TM 9-1731B	Ford Engine
TM 9-1731D	Azimuth Indicators
TM 9-1731E	Electric Traverse
TM 9-1731F	Hydraulic Traverse
TM 9-1731G	Hydraulic Trav. (Oil Gear)
TM 9-1731K	Auxiliary Generator
TM 9-1750 & 1750A	Power Train 3 pc dif.
TM 9-1750B	Power Train 1 pc dif.
TM 9-1750K	Tracks, Suspension, Turret & Hull
TM 11-2704	Radio and Telephone
TM 11-2748	Install. Radio Equipment
FM 17-67	Drill, Service & Storage
SNL A55, Sec 11	Mount, Cal. .30
SNL A55, Sec 38	Mount, Cal. .50
SNL C44	Gun, M34, M34A1
SNL G204	105-Howitzer
SNL J16, Sec 9	Tool Sets



MEDIUM TANKS M46 & M46A1, 90mm GUN M3A2

DIRECTIVES

TB Ord 371	Flarebacks
TB Ord 379	Supplies in Open Storage
TB Ord 399	Telescopes
TB Ord 428	Oil Reserve in Recoil
TB Ord 443	Headlight Adjustment
TB Ord 454	Shifting & Backing Precautions
TB Ord 457	Gun Traveling-Lock
TB Ord 459	Procedure Prior to Starting
TB Ord 461	Fuel Pump Pressure
TB Ord 462	Fuel and Spark Plugs
TB Ord 464	Silicone Oil Seals
TB Ord 469	Bore Evacuator Care
TB Ord 474	CD850 Oversize Studs
TB Ord 482	Brake Oil-Valve Adj. Stud
TB Ord 484	Staking 2nd Idler Gear
TB Ord 489	Replace Transmission
TB Ord 490	CD850 Breather Filter
TB Ord 9-1718A-1	Continental Engine (AV 1790-5B)
TB Ord 9-1718F-1	Steering-Clutch Plate
TB 9-718-1	Telescope Errors
TB 9-718-2	New Master Switch
TB 9-718-3	Engine Installation
TB 9-718-4	Exhaust-Pipe Clamps
TB 9-718-5	New Cupola-Door-Seal
TB 9-718-6	Transmission Signal-Light
TB 9-718-7	Final Drive Assemblies
TB 9-718-8	Fan-Clutch Coil
TB 9-2853-4	Deep-Water Fording
MWO Ord A55-W17	Ammunition Jamming
MWO Ord G244-W1	Telephone Box Door
MWO Ord G244-W2	Radio-Antenna Mounting-Bracket
MWO Ord G244-W3	Turret Traversing Lock
MWO Ord G244-W4	Under Vehicle Resistance to Detonation
MWO Ord G244-W6	Switch-Controlled Battery-Charge
MWO Ord G244-W7	Generator, Engine, Lubrication
MWO Ord G244-W8	Positive Brake-Lock
MWO Ord G244-W9	New Primer Nozzles
MWO Ord G244-W10	Bevel-Gear Bearing
MWO Ord G244-W11	New Fuel Line
MWO Ord G244-W12	Relocate Battery Cable
MWO Ord G244-W13	Cold Weather Warm-up

MWO Ord G244-W14	Cooling-Fan Clutch
MWO Ord G244-W15	Engine Smoking
MWO Ord G244-W17	Fan-Rotor Housing
MWO Ord G244-W18	Grille & Fuel-Tank Locks
MWO Ord G244-W19	Trans. Oil Filter Cap
MWO Ord G244-W20	New Oil Lines
MWO Ord G244-W21	CD850 Retainer Screw
MWO Ord G244-W22	Hand Refueling Pump
MWO Ord G244-W24	Final Drive Output Shaft
MWO Ord G244-W25	Eliminate Oil-Line Failures
MWO Ord G244-W28	Locking-Bar Tension Spring
LO 9-718	

PS MAGAZINE ARTICLES

PAGE NO.	ISSUE NO.	SUBJECT
8	1	General Information
9	1	Master-junction-box care
10	1	Voltage regulator hook-up
74	2	Low-battery expedient
91, 277, 317, 372	3, 7, 8, 9	Driving Pointers
92	3	Clogged carburetors
93	3	Ammunition stowage
93	3	Tactical precaution
156	4	CD850-4 dipstick
157	4	Transmission oil-filler fix
158	4	Silencer for Little Joe
181	5	Ignition timing
214	5	Track care
246	6	Platinum-tip plug salvage
260	6	Reversing generator polarity
263	6	Oil-cooler fix
271	7	Air-maze-filter care
277	7	Muffler-shield screen
278	7	Final-drive gear-ratios
278	7	Wrong fuel and plugs
279	7	Oil-cooler-clutch fix
279, 326	7, 8	Oil-filter cleaning
326	8	Overheating transmission
327	8	New spark-plug wrench
365	9	Turret-drift fix
369	9	Track-jack fix
462	11	Stripping electrical connectors
462	11	Bore evacuator care
463	11	Frozen counterweights
463	11	New primary nozzles
463	11	Commander's hatch seal
471	11	CD850-4 transmission
474	11	Headlight aiming
492	11	Using the M71E5C scope
3C	11	Cold-weather warm-up
510	12	New master switch
530	12	Battery repair

TECHNICAL MANUALS & CATALOGS

TM 9-374	Gun
TM 9-718	Tanks M46 & M46A1
TM 9-1374	Guns and Mounts
TM 9-1718A	Continental Engine
TM 9-1718B	Transmission (CD850-3)
TM 9-1718C	Wisconsin Auxiliary Engine
TM 9-1718D	Hydraulic Turret-Traversing
TM 9-1718E	Oil-Cooler Fan, Drive, Brake Cam
TM 9-1718F	Transmission (CD850-4)
TM 9-1731D	Azimuth Indicator
TM 9-1825C	Electric Equipment (Eclipse-Pioneer)
TM 9-1825D	Electric Equipment (Westinghouse)
TM 9-1825E	Electric Equipment (Bendix Scintilla)
SNL A55, Sec 38	Mount Cal. .50
SNL A78	Mount (7722408)
SNL C69	Gun, M3A2
SNL D47	Mount, M73
SNL G244	Tank, M46, M46A1
SNL J16, Sec 52 & C1	Special Tools

MEDIUM TANK M47, 90mm GUN T119M1

DIRECTIVES

TB Ord 443	Headlight Adjustment
TB Ord 454	Backing & Shifting Precautions
TB Ord 457 & C1	Turret Traversing-Lock Assembly
TB Ord 459	Procedure Prior to Starting Engine
TB Ord 461	Fuel Pump Pressure
TB Ord 462	Fuel and Spark Plugs
TB Ord 464	Silicone Oil Seals
TB Ord 469	Bore Evacuator Care
TB Ord 474	CD850 Oversize Studs
TB Ord 482	Brake Oil-Valve Adj. Stud
TB Ord 484	Staking 2nd Idler Gear
TB Ord 490	CD850 Breather Filter
TB 9-718A	Ammunition Authorized
TB 9-718A-2	Main-Engine Air-Cleaner Care
TB 9-718A-8	Elect. Output During Training
TB 9-718A-4	Selector Valve Identification
TB 9-1718A-1	Continental Engine (AV 1790-5B)
TB 9-1718F-1	Steering-Clutch Plate
MWO Ord G262-W1	Trans-Oil Filter Cup
MWO Ord G262-W3	Ready-Round Racks
LO 9-718A	

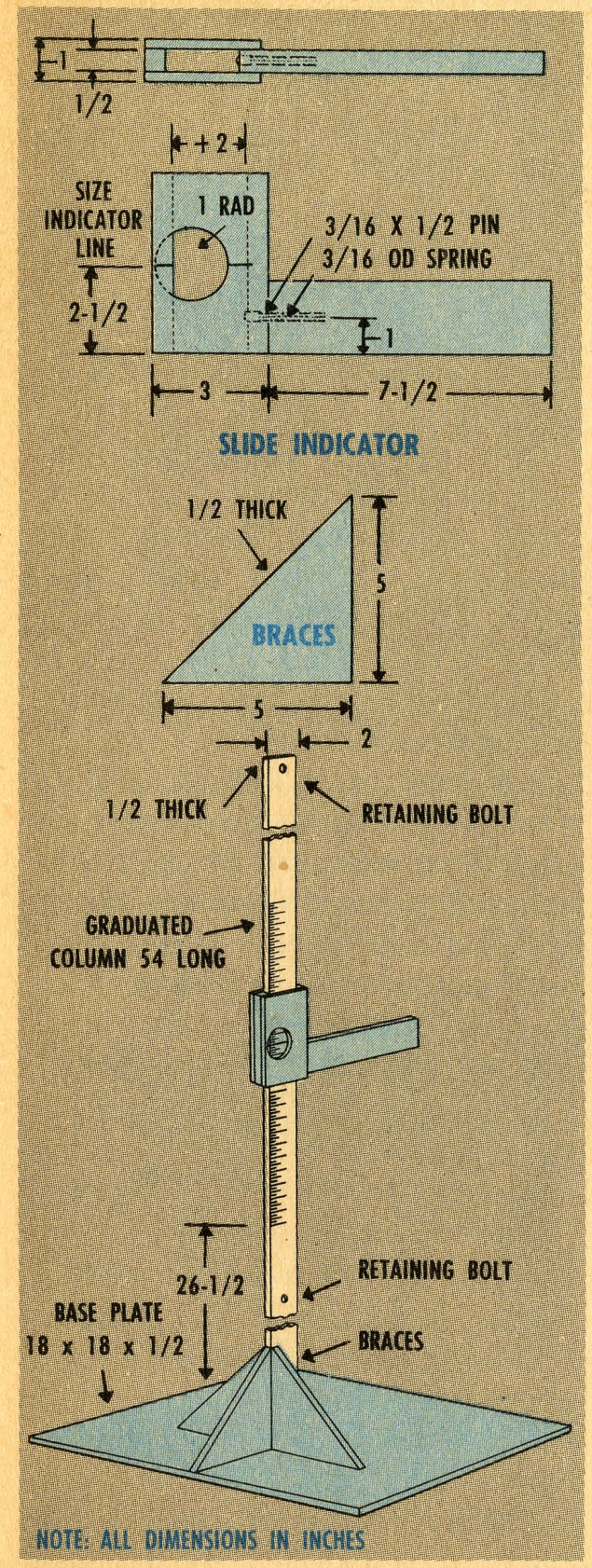
PS MAGAZINE ARTICLES

PAGE NO.	ISSUE NO.	SUBJECT
43	1	Transmission-transfer case caution
91	3	Terrain caution
92	3	Hatch-latch care
92	3	Clogged carburetors
93	3	Ammunition stowage
93	3	Tactical precaution
246	6	Platinum-tip plug salvage
271	7	Air-maze-filter cleaning
277	7	Driving tips
277	1	Muffler-shield screen
278	7	Final-drive gear-ratios
278	7	Detonation causes
279	7	Oil-cooler-clutch failures
279	7	Oil-filter cleaning
317, 372	8, 9	Operating tips
320	8	Stall speeds and checks
326	8	Oil-filter cleaning
326	8	Transmission overheating cure
327	8	Spark-plug wrench
369	9	Track-jack fix
413	10	Transmission filler-cap fix
462	11	Battery wing-nut caution
462	11	Sticky hotspot butterfly
462	11	Bore evacuator care
463	11	Gun tube care
471	11	CD850-4A transmission
474	11	Headlight aiming
492	11	Using the M71E5C scope
3C	11	Cold weather warm-up
530	12	Battery repair
552	12	Fuel line caution

TECHNICAL MANUALS & CATALOGS

TM 9-718A	Tank, M47
TM 9-1374AA	Gun, T119E1
TM 9-1730E	Turret
TM 9-1730F	Aux. Gen. & Eng.
SNL A55, Sec 38	Mount (6580030)
SNL A78	Mount (7722408)
SNL A90	Mount (7351999)
SNL D54	Mount, M78
SNL G52	
SNL G262	Tank, M47
SNL J16, Sec 52 & C1	Special Tools

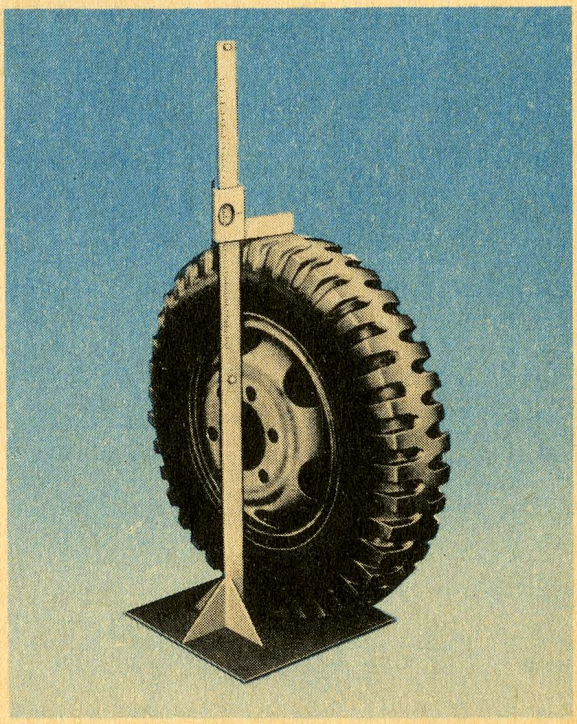
TIRE-MEASURING TOOL



A good way to match those used tires you'll be getting in on your requisitions is shown below. It can be made out of scrap metal at the discretion of your CO. It's a quick way to group tires according to the specs in TM 31-200.

Be sure to make allowances for 2-1/2″ between the size indicator line and slide-indicator bottom that rests on top of the tire—your 24″ mark will actually be 26-1/2″ from the base plate. And grind smooth any roughness on the slide indicator to eliminate casualties.

To use, inflate your tire as you would for normal use and place it snugly against the column. Slide the indicator down on top of the tire and read the size through the hole in the indicator.



HE M329 AMMO

A good thing to keep in mind when dropping HE M329 ammo with a full propellant-charge in your M30, 4.2 mortar, is that all the increments must be forward of the flash-holes in the cartridge-container extension.

Cluttering up these flash-holes with increments can get you erratic burning of the charge which can interfere with the ammo's sending-off power; and, in turn, your M30 may not always give you the range you asked for.

The propellent-holder will keep the increments ahead of the holes where they belong—all it needs is firm anchorage in its slot in the extension.

And when your M30 gets this ammo with 25½ increments (or less), and you remove the shell's container-extension—like it says in paragraph 390b of Change 3 to FM 23-92, 17 Oct 52—don't discard the wire holder. Slip it in the holder-slot in the cartridge container so it'll hold the increments safely ahead of the striker nut.

HE M329 ammo, as you know, is also fed to the M2, 4.2 mortar—**but,** without its container extension. And 25½ increments is the full charge for the shell when it's fired from the M2 mortar. So in this case you abide by the caution-tag on the round (and beforehand, better bone-up on TB Ord 417, 28 June 52).

And whether you're firing the M30 or the M2 mortar, this ammo never goes in with less than five increments. In some cases when the M329 shell's equipped with the M51A5 fuze, you're likely to get duds if you don't use at least seven increments.

Also, in using this ammo—minus its extension—in either the M30 or the M2 mortar, the weather has something to say about the range it'll give you. There's a temperature-restriction on increments and it's set-up like this:

IN TEMP AS LOW AS	MAXIMUM INCREMENTS
60° F	full charge
20° F	23
0° F	20
–40° F	17

There's no temperature-restriction when HE M329 is used with its extension in the M30, 4.2 mortar. For further information on ammo for 4.2 mortars, back track to PS #7, p. 297.

NIX ON PRESSURE-CLEANING FOR AAA EQUIPMENT

A scrub-job on any piece of anti-aircraft artillery by means of pressure—air, steam or water—is out. Pressure cleaning can damage the piece itself, or some of its delicate assemblies.

So the next gentleman you see running this risk of ruination, better wave TB Ord 478 (28 Nov 52) under his nose, and tell him to leave pressure-cleaning to the rebuild boys—they know when and how to use the method safely.

Unless specific LO's and TM's say otherwise, volatile mineral spirits or dry-cleaning solvent are the prescribed de-greasers and de-oilers for all metal parts—except of course, those parts that come in contact with primer salts. For them (gun bore, breech and firing mechanism) the prescription is rifle-bore cleaner.

And, as a reminder, gasoline is not for cleaning purposes, either. Also, any parts that need lubrication must be dried after cleaning and given their prescribed coat of lube—and muddy parts should be sponged-off with soap and water, rinsed and thoroughly dried.

RIFLES RUBBED RAGGED

In devoting too much loving care to their rifles and carbines, some guys are caressing them right into the scrap heap. Lots of rifles and carbines have been tagged unserviceable because they have been rubbed down by something besides the recommended materials.

The surface finish is sometimes completely removed by the abrasive cleaners used (probably picked up in the kitchen or shop). The blue finish on the weapon protects the steel surface from oxidation and reduces light reflection. Rubbing off the finish is finis for both.

This loving ministration with unauthorized abrasives can also spell murder for the M1 rifle's barrel-bearing where tolerances are measured in fractions of gnats' whiskers. A few deft passes with an abrasive at carbon or rust particles on the bearing's surface and Ordnance's check with the Go-No-Go gauge gives it the final kiss off.

Take a shine to Oil, Lubricating Preservative (Special) instead.

M2 CARBINE

When assembling or disassembling the M2 carbine, you'll save breaking the disconnector lever (usually at the rivet) if you first check to see if your M2 is one of those that has a groove in the disconnector. To get it safely in or out, you have to pivot the lever so it'll clear the groove.

TELESCOPE RETICLE

So's to raise your batting average, the M86C Telescope you're using with your 57mm recoilless rifle has been changed. Its new how-de-do is M86F and the big change is the addition of stadia lines to its reticle (Fig. 1).

With the '86C, you estimate the distance between you and the target and raise your sight accordingly—the reticle having graduations in terms of hundreds of yards. But with stadia lines on the reticle, guessing goes down and your chances for a first-time hit go up—if you're going after tanks.

The new lines are figured for a 20′ target which is a tank's average length. The space between the lines is wide at the top and narrows as it goes down the reticle and range increases. When aiming at a tank broadside, raise your sight so that the outer ends of the target just touch the two stadia lines. And since a tank's about half as wide as it's long, figure on using half the space and center the tank between the lines when looking at it head-on. Use your best judgement when seeing it at an angle. For any bull's-eye that can't be figured on the basis of a 20′ target, forget about the stadia lines and tackle it the way you would with an '86C reticle.

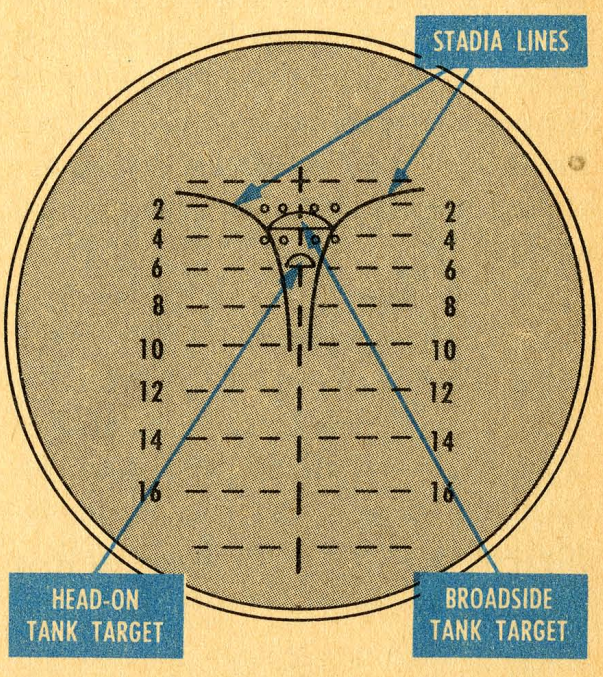
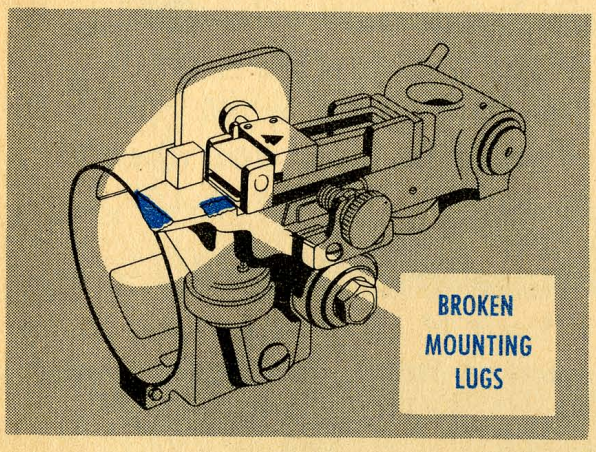


Fig. 1—You get more holes-in-1 on enemy tanks with stadia lines on the M86F reticle.

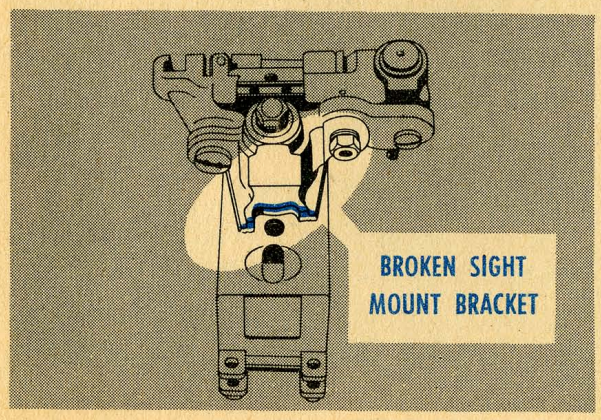
WHEN IS A SIGHT MOUNT A SIGHT?

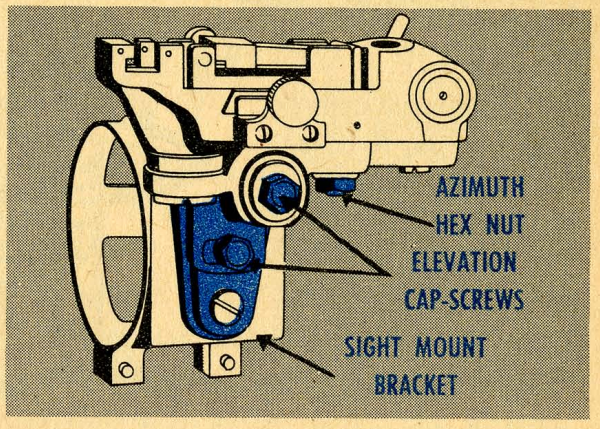
—*when you do it the hard way*

The M74 Sight Mount ➔ on 57mm, M18, recoilless job isn't tough to handle, but forcing the mount's parts can make a mess of it. TB 9-314-3 says to hold it firm, then move what's movable and put what goes together neat and easy like.

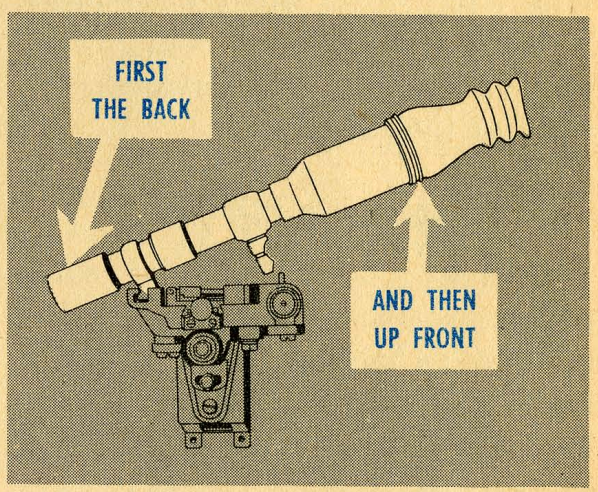


Seat the M86 scope's clip ➔ evenly in back and then squarely up front—the arrows point the way to a cozy undamaged set-up. Too much muscle always breaks something, so if you meet resistance find and move the roadblock.



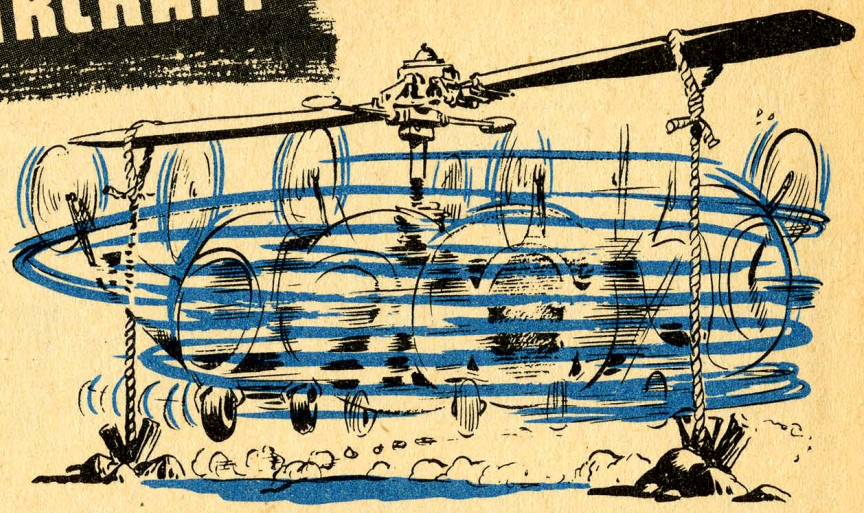


➔ Easy-does-it can save your mounting lugs from the same fate as these. It happened while an M86 Telescope was being put in place and the Joe jerked his hand without thinking. Take that second look when setting yours up.



➔ Forcing the sight-mount bracket while boresighting did this. To swing the bracket without breaking it, loosen the two elevation-eccentric cap-screws or the azimuth-eccentric hex-nut. With its screws loose, it can't break.

ARMY AIRCRAFT



Kunfucyus say: It couldn't happen to you, of course, but he who starts whirly-bird with blades tied down looks sadder and wiser while waiting for new clutch, and/or blade socks, and/or blades.

H-19C FREE WHEELING UNIT

Remember that even though the H-19C rotor-free-wheeling-unit (Sikorsky) has a grease fitting, the correct lubricant is GO 90. Stuffing it full of CG will louse up the unit. You will find it pays to fill a gun with GO 90 to lube these units. You will find it also pays to go darn easy on pumping it in—it's real easy to blow the grease seals.

BATTERY CHECKS

Strange as it sounds, some people will insist on waiting the full seven days between battery checks, no matter how hot the weather is. It won't do—you gotta take a look at that battery every three days or so in extreme hot weather. You'll be surprised how thirsty it gets.

H-19C CLAMSHELLS

You don't know what grim catastrophe might come of flying a Sikorsky with the clamshells not locked. You do know that failure to hook them back when open gets some shells punctured when they fly back and hit the hooks.

H-13 STARTER PARTS

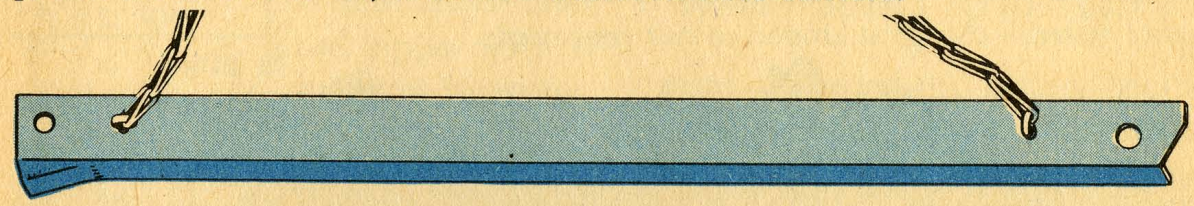
Your H-13 uses a Delco-Remy starter, Delco No. 18364; this starter uses a clutch drive assembly, Delco No. 1873789.

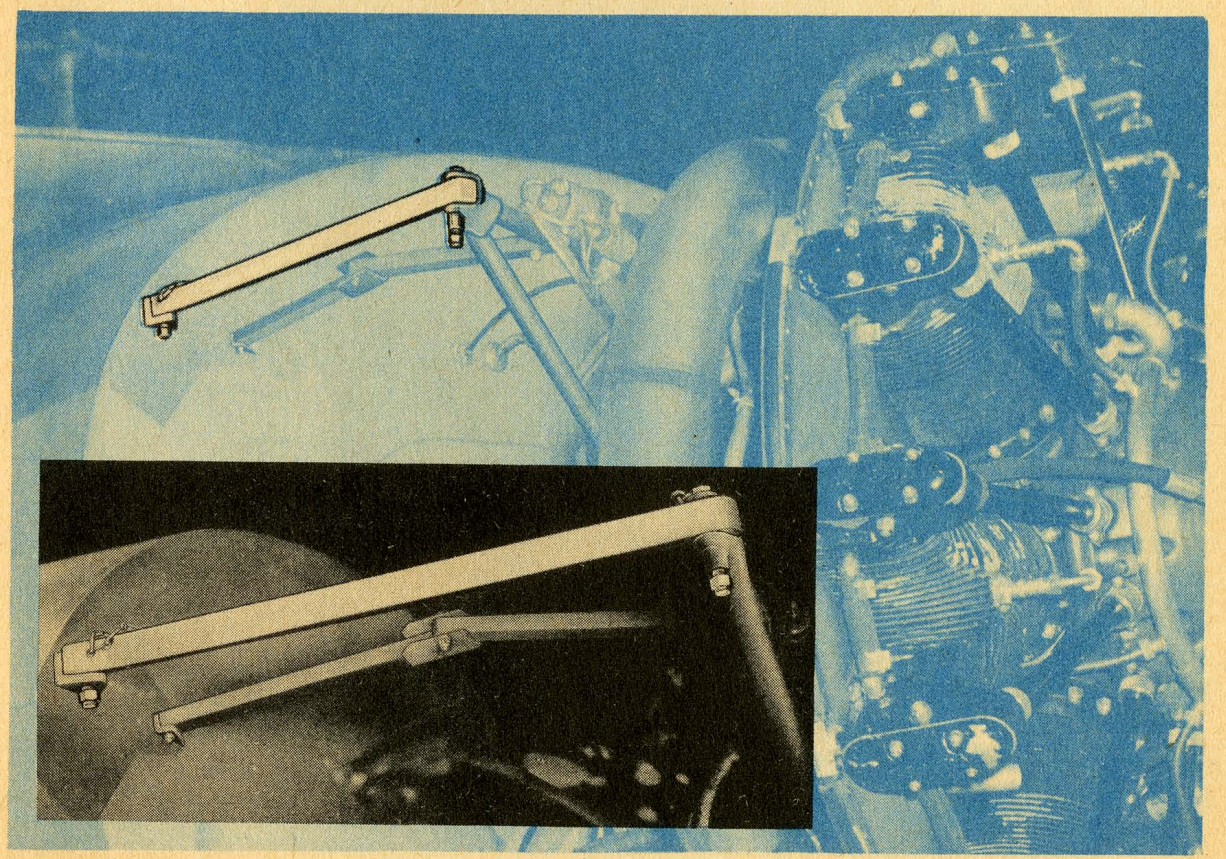
Your administrative motor pool has Delco-Remy starters for Chevrolet sedans and GMC commercial type trucks. These starters use clutch drive assembly, Delco No. 1873789, Stock No. G508-6226420—same number, same part, not a bit of difference. Manufacturer picks 'em both up from the same box and hooks one on a 6-volt motor for the car, the next one on a 12 or 24-volt motor for the aircraft.

Now, no one's telling you to use automotive starter-parts on your fly wagon. Just be sure you put on a clutch drive assembly, Delco No. 1873789.

The Story of the **SAFETY BAR** *for LC-126 Engines*

Once upon a time it seems that a handsome young prince-of-a-soldier had an LC-126C engine swing back on him while he was in behind it. This was said to be most painful. When **Mr. Felix S. Davis,** a civilian aircraftsman at Fort Knox, heard about it he devised an angle-iron safety-bar to supplement the existing lock. As shown below, the one he built was carefully tailored to fit the mounts, and has its own bolts. Actually, the only thing you must have is a bar with the appropriate bolts and holes, with 19″ between hole centers.





SUPPLY & DIRECTIVES

PRODUCTION-LINE PM

Some units build up 1000 miles mighty fast and PM services have to be done as often as once a week instead of every month or two. That's mighty tough on organizational maintenance in a busy organization.

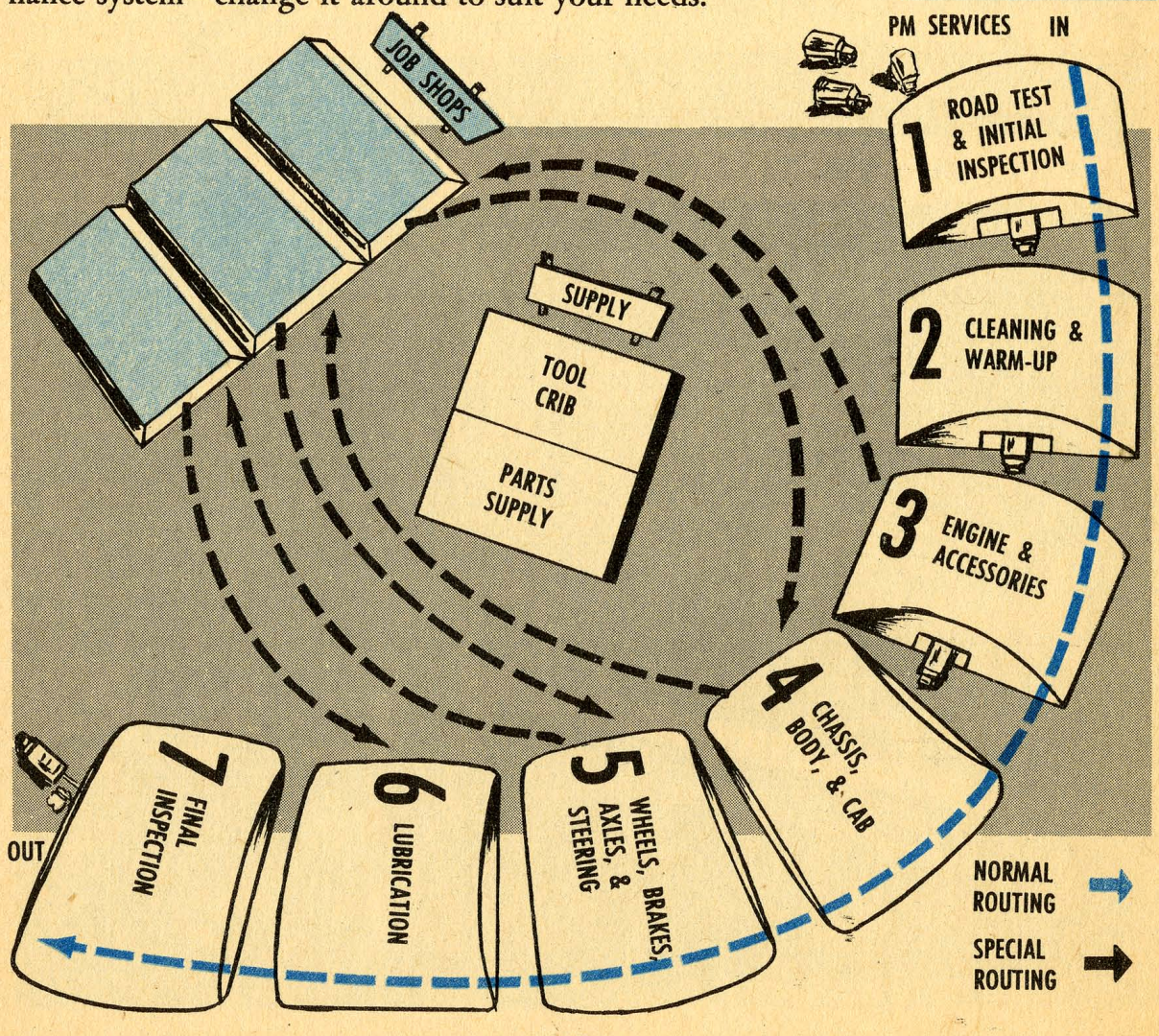
If the malady sounds familiar, why not consolidate your organizational maintenance people with those of other companies and set yourselves up a production-line maintenance system?

You'll need pits or ramps with lights and something in the way of shelter from the weather. Supplies of the most commonly used parts will be a must at each "station."

Here's a layout for a jumbo-sized production-line maintenance system—change it around to suit your needs.

NOTE: With the following personnel on the production line, it is estimated that 10 to 30 vehicles per day can be given the Commander's PM Service.

STATION	PERSONNEL
1	1 to 3
2	1 to 3
3	2 to 6
4	4 to 8
5	2 to 6
6	2 to 6
7	1 to 3
TOTAL	13 to 35



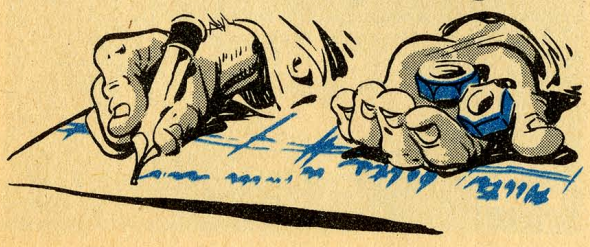
STEERING-KNUCKLE-BOOT KIT

Having trouble with your M34 steering-knuckle boots in Service Replacement Kits #G742-7410883? The joker in the deck is that there's a coupla different varieties of outmoded boots still in the supply system, which you might get when you requisition under that number. Here's how you can help the supply guy: Try adding a note on your requisition that only the moulded all-rubber boot with the vulcanized zipper will be acceptable, and see what happens.

M135 Supply Catalog

If you're using Ord 8 SNL G-749, page 60—torus assemblies, look twice before you leap. If you don't—you'll get a retainer for a nut or a spring for a retainer sure as you read straight across. But if you look real close, you'll see the printer has slipped a cog. The dope in columns 6 thru 11 has been jumped one line.

Might save a heap of headaches if you get out your copy right now and draw some lines under the items and the entries that really belong to them—lest you forget.



PUBLICATIONS LISTINGS

SB 9-1 (11 June 52) is still the latest listing of publications on Ord Major Items and rumor has it there won't be another one any time soon.

But cheer up, there's a shiny new SR 310-20-4 (Nov 52) to supercede the older one and its changes, and it'll do the job till a new SB 9-1 gets around.

TIRES, TUBES AND FLAPS

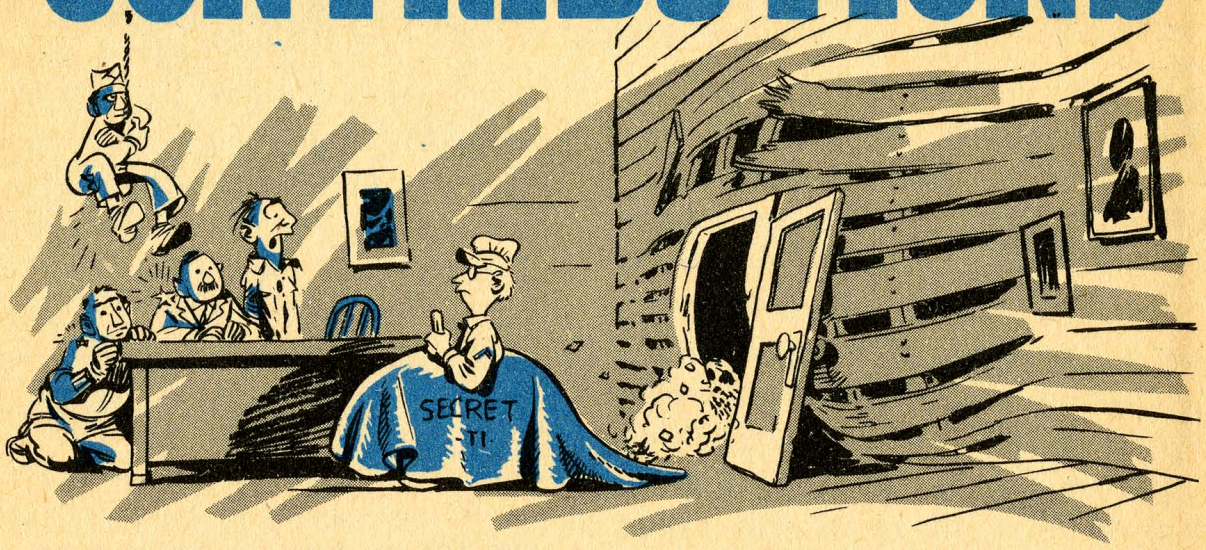
Judging from the letters you've been writing in to PS, you'd like to know just what goes and what to expect from your tire requisitions. Change 1 to AR 750-137 (AFR 65-2A) makes things a lot clearer than they were under the old AR of the same monniker.

F'rinstance, if you're wanting tires for fire department vehicles or crash trucks, or for research and development purposes, you can get all new ones for the asking. Only don't forget to say so on your requisition.

Except for that, ZI requisitions'll be filled with new tires only if your distribution depot is out of the serviceable used or reconditioned ones. Overseas-command requisitions get handled just vice versa.

You'll want a copy of this change—it throws a new slant on the tire situation.

CONTRIBUTIONS



SUPPORT DRAIN-HOLES

Dear Editor,

Gravity can get rid of any water accumulating in the ¾-ton M37's radiator support-bracket (Stock No. G741-7373720) if you drill a couple of holes in it. The bottom center is raised a little, so put the openings at the lowest point on each side—⅛" holes should take care of it.

Forrest L. Gibson, OCT
Fort Lewis, Washington

(Ed Note—Nice relief for a sore spot. You'll find the latest '37's coming out with the holes already in the bracket.)

BLACKOUT MARKER-LAMP SPONGE

Dear Editor,

PFC Jack Hinson had trouble with condensation accumulating in the B. O. marker lamps on his M135 GMC. He had his supply sergeant save him some 4-ounce bags of desiccant used to absorb moisture in spare parts packages. Hinson dried out what moisture had collected in his lamps, put a 4-ounce bag in each one (Fig. 1) and reinstalled the cover—no more condensation.

T. W. Winter, Jr., OCT
Camp Edwards, Massachusetts

(Ed Note—If you've got condensation, dessicants will get rid of it. But, first check to see why you're getting moisture in the sealed unit to begin with. If you've replaced a bulb and used the same 0-ring for reassembly, that can be your trouble —these 0-rings take a permanent set. If you're using dessicant, though, be sure to keep checking—when they're damp, use heat to dry 'em out and restore the absorbing power.)

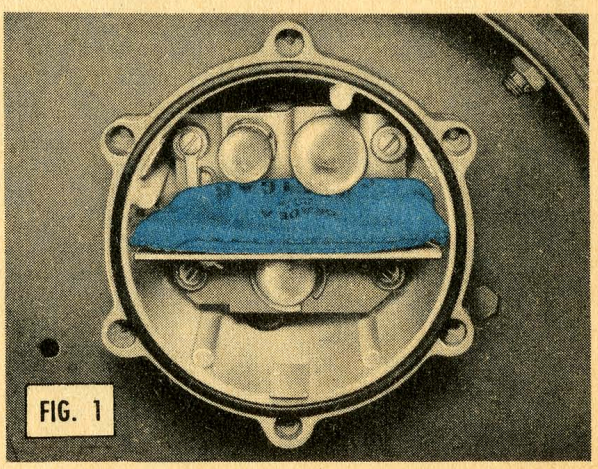


FIG. 1

SHIFTER-SHAFT-BOOT SAVER

Dear Editor,

Here's how our field maintenance shop saves a lot of power-takeoff shifter-shaft boots, seals, and oil leaks, on the M51 5-tons. These seals (SN H013-0500010) and boots (SN G742-7061278) are right above the exhaust pipe and are taking a beating from its hot breezes. The heat also thins out the oil, and you might have leaks even after you stick in new seals.

To give the boots and seals some protection and help keep the oil from thinning, you can make up a baffle plate out of sheet metal (Fig. 2) and stick 'er between the exhaust pipe and the power-takeoff like you see in Figure 3.

H. E. Gray, OCT
Fort Leonard Wood, Missouri

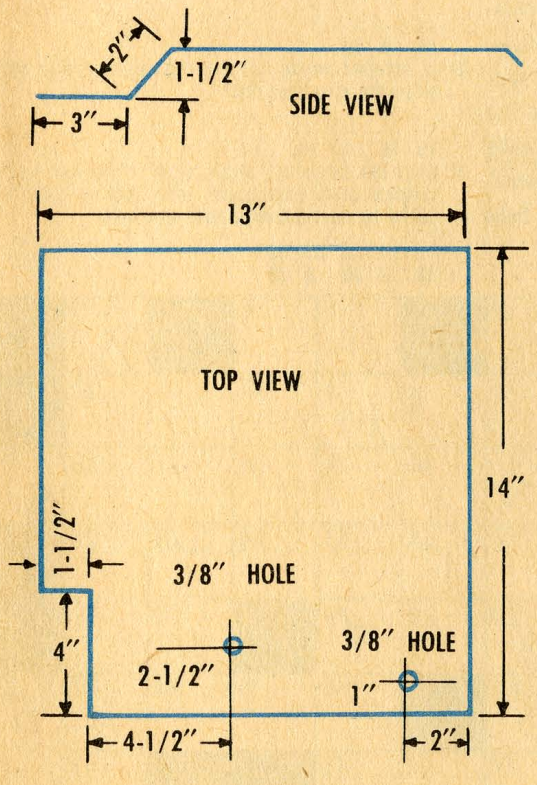


Fig. 2—This is how to make the gadget that'll save your M51's boots and seals. Choose your own thickness of sheet metal.

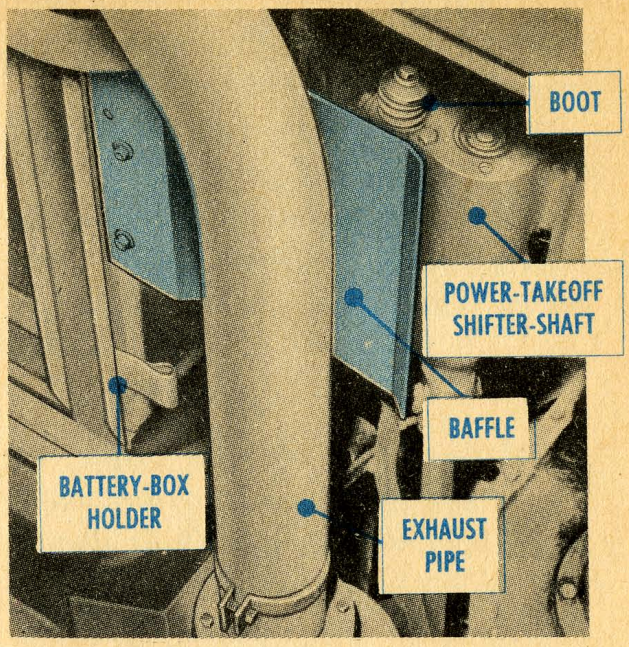


Fig. 3—Mount the baffle to the battery-box holder. Drill two holes in the baffle and holder for ⅜" bolts. There's vibration here, so don't forget to use lock washers.

GO EASY ON THE DONALDSON VALVE

Dear Editor,

We couldn't find the reason for a fast idle in a couple of M38A1's until somebody slowly turned the left-side fording valve a little on one of them and it idled fine. Looking further we found the Donaldson valve (Fig. 4) in the ventilator didn't always seat tight and our guess is that the vacuum pressure that controls it got lost traveling the long vacuum line—the line's crooks and bends probably act as restrictions. Sometimes we have no trouble at all so it seems the valve seats just loose enough where at times it works OK and other times it doesn't.

Since we didn't want to keep the fording valve partly closed and confuse the fording valves' linkages to their hand lever, we reduced the size of the orifice (opening) at the end of the Donaldson

valve by peening it a **little** with a center-punch. This cut down the amount of air getting through the loose valve.

Now when an 'Al idles too fast, we first try closing the fording valve slowly. If that does it, we know it's the Donaldson valve again. If closing the valve a little doesn't work, we look to the carburetor.

Ralph James
APG, Maryland

(Ed Note — Peening the orifice too much could end-up with pressure build-up in the crankcase and oil leaks all over the place. Check your vacuum booster first, and clean the valve and fuel line of oil and carbon. Make peening a last resort after you've tried everything else.)

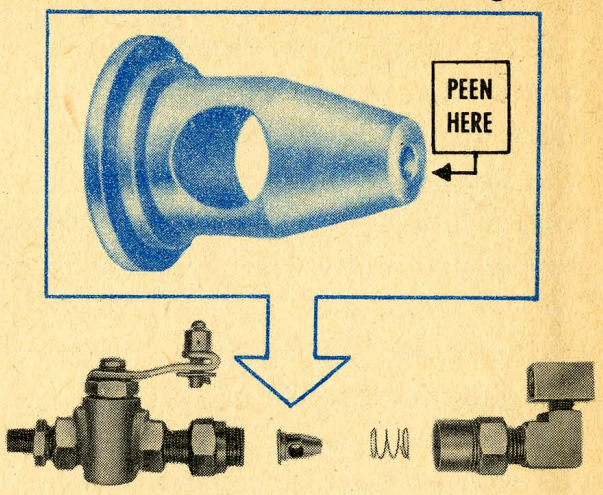


Fig. 4—Go easy on the Donaldson-valve. Too little a hole is worse than too big.

you ask for a puzzle —you get a puzzle

PS Double-Crosser

HOW TO DO IT

The diagram squares spell out a familiar saying. The word definitions were taken from information in this issue of PS Magazine—unless it's something you know well enough to answer in your sleep. When you find the word to fit the definition, write it in the blank spaces provided. Each space has a number—a corresponding number appears in the diagram below. So when you find a word, transfer the letters to the matching numbered squares. In no time at all, you'll solve the familiar saying.

WORD DEFINITIONS

A) Operation of this is necessary when adjusting the clutch

__ __ __ __ __ __ __ __ __ __ __ __
29 13 5 40 19 9 30 50 33 22 39 47

B) Description of vehicle when PM is neglected

__ __ __ __ __ __ __ __
24 8 2 17 21 32 23 34

C) The commander should avoid doing this to turret-traverse gears

S T R I P
49 25 37 3 16

D) Word you'd most like to hear from a tomato

__ __ __
38 48 42

E) Location of drain, on M100 trailer, that makes parking in the rain no problem

__ __ __
27 41 12

F) Describing generator and regulator interchangeability if from different manufacturers (2 words)

__ __ __ __ __ __ __
43 26 28 11 46 31 45

G) Before you do this to the M62 Wrecker, you'll need to read story on page 602

__ __ __
44 4 14

H) If safetied wrong, all the cap screws come loose when the wire does this

__ __ __ __
15 18 10 1

I) What the Sarge will strain again if you foul up the winch's brake-adjustment when you're just supposed to be tightening nuts and bolts

__ __ __ __ __
35 7 20 6 36

1	2	■	3 I	4	■	5 A	■
6	7	8	9 M	10	11	12 D	■
■	13 R	14	15	16 P	17	18	19 S
20	21	22 I	23	24	25 T	26	■
■	27 B	28	29 T	■	30 I	31	■
32	33 S	■	34	35	36	37 R	38
39 O	40 N	41 E	42	■	■	43	44
45	46	47 N	48	49 S	50 S	■	■

PERPETUAL INDEX

Your monthly reference guide to all subjects covered in the last 12 issues of PS Magazine

DIV.	MAJOR ITEM	PS ISSUE NUMBER 1	2	3	4	5	6	7	8	9	10	11	12
		PAGE NUMBER											
AUTOMOTIVE	SPECIAL PURPOSE VEHICLES		55, 57, 71 73, 84	101, 118	176	214	246	274, 280	330	374, 375	3C		552
	TANK—M4, M4A1, M4A3	42	72		136, 144		246	292		369	425		
	TANK—M24	43				217	233, 246					490	
	TANK—M46, M46A1	8, 9, 10	74		156, 157, 158	181, 214	246, 260, 263	266, 271, 277	326, 327	365, 369		462, 471, 474 492, 3C	510, 530
	TANK—M47	43					246	271, 277	317, 320, 326 327	369	413	462, 471, 474	530, 552
	TRACTORS	28, 41			160					408	427, 438		
	TRAILERS				166			276		405	3C	460, 501	
	TRACTOR—M52				137	206	250		342		422	483, 501, 3C	530, 3C
	TRUCKS—(WORLD WAR II)	11, 27, 28 30, 36, 4C	55, 56, 68 72, 73, 84 85, 88	98, 100, 115 116, 128, 130	142, 145, 161 170, 171, 172 173	178, 186, 204 205, 207, 217	232, 248, 249 251, 258, 259	281	338, 339	394, 395, 397 405	437	504	535
	TRUCKS—COMMERCIAL			117	143		230	274, 310		407			
	TRUCKS—M34	13	50, 77, 81 87	96, 116	137, 160, 162 173, 3C	187, 188, 189 215, 216, 218	230, 233	275, 281, 310 312	323, 328, 341 343, 357, 359 360	373, 374, 406	421, 424, 438 453, 454	501	509, 514, 530 3C
	TRUCKS—M35								328				514, 530
	TRUCKS—M37			98	137, 162, 163 171		232, 233, 248 251	276	321, 323, 324		422, 453, 455 456, 3C	472	530, 3C
	TRUCKS—M38	13	82, 88	90, 101	137, 166	188, 201, 215 3C	225, 230, 233 250, 251, 257	276, 282, 290 312	321, 324, 329 340, 358, 360 3C	366, 395	426, 453, 3C	503, 504	512, 530
	TRUCKS—M38A1										414, 3C	464, 503, 504	530
	TRUCKS—M41				137, 3C	208	233	276	342			482, 501, 3C	530, 3C
	TRUCKS—M42												3C
	TRUCKS—M44				137, 165		230, 233	276		373			530
	TRUCKS—M47												513, 530
	TRUCKS—M51		86		137, 3C	207, 208, 216	233, 250, 258 259	276	342		422	483, 3C	530, 3C
	TRUCKS—M135				137		233, 252	276, 283	322, 328	376, 405	423, 438	468, 469, 501 504	509, 512, 530
AUTOMOTIVE—General Items	ACCESSORIES	27		115	142							460, 489	3C
	AIR COMPRESSOR	12, 27, 41									423		546
	BODY		73			187, 207				395, 396, 406	440	484	
	BRAKES										423		514
	CLUTCH												514
	CONTROLS							312	3C	374			514
	COOLING SYSTEMS			99, 124			248	275				3C	513, 536
	ELECTRICAL	13, 27, 28 40	57	94, 117	137, 165	178, 186, 187 204, 213, 216 3C	246, 247, 261	272, 274, 282 293, 3C	325, 328, 332 3C	373, 374, 377 3C	421, 424, 439 3C	469, 474, 482 484, 502	513, 530, 532
	ENGINES		58			200		3C		378, 408			536
	EXHAUST										454		
	FUEL SYSTEMS										420, 421	470	
	FUNDAMENTALS	3, 4, 5, 6, 7 11, 14, 27 34, 36, 44	47, 48, 72	91, 92, 93 100, 102, 121	142	2C, 177, 179 188, 190, 198	222, 223, 231 234, 244, 3C	265, 284	315, 325	364, 370, 372 408	410, 411, 419 434, 441, 450 452	2C, 459, 471 476, 483, 486 3C	515, 527, 532 547, 549, 550 552
	INSTRUMENTS				137							468, 469	
	LUBRICATION	39, 42	55		143, 144		262	3C	354, 358	395, 397, 3C	426	461, 485, 3C	536
	PUBLICATIONS												537, 546
	SUPPLY	24		112, 114, 132 4C	146, 174, 4C 4C		261	306, 307, 312	355, 356	402, 4C	425, 440, 450 451, 4C	499	546, 548
	TIRES				161				331	363, 406	451	459, 484, 3C	550
	TOOLS	29		115, 122	140, 162	178, 184	228, 261, 262	311	354	408	439, 453, 454	470, 3C	537, 547
	TRACKS (TANKS)					214							
	TRANSMISSIONS							271			424, 434		
	WHEELS	35			133	206						3C	
	WINCHES	28	78						357				535
ARMAMENT & AMMUNITION	AMMO (GENERAL)												506, 507, 538
	GUNS											500	
	HOWITZERS							267	344, 349	362, 387		458, 491, 501 502, 503	507
	MACHINE GUNS								316				
	MISCELLANEOUS							268, 294	314, 359	362	412, 3C	491	507
	MORTARS							296, 297	345, 3C	364	442		
	RECOILLESS RIFLES				134								
	RIFLES							295	344, 3C	3C	443		
	ROCKET LAUNCHERS										443		
FIRE CONTROL	COMPASS & WATCHES											493	
	DIRECTORS & RADAR							299	348, 349		445		540
	MISCELLANEOUS							298, 299		3C	445		541
	SIGHTS & 'SCOPES								315		444		
ARMY AIRCRAFT	H-13											495	543
	H-19, H-19C												543
	L-17, L-17B							303	350				
	L-19, L-19A							302, 304	350, 351, 352	400, 401	446, 448	496	544
	L-21												542
	LC-126, LC-126C								351, 352				544, 545
	MISCELLANEOUS							301, 303, 304	350, 351, 352 353, 354	398, 400, 401	447, 449	494	542, 544

2C—INSIDE FRONT COVER; 3C—INSIDE BACK COVER; 4C—OUTSIDE BACK COVER

"You find the one that hurts . . ."

This is Stubborn Sam . . .
he's the mule-trader who wouldn't
tell which tooth hurt 'cause he figured the
dentist oughta know his *own* business . . . "He's gettin'
paid for it, ain't he?" The dentist hadda pull every tooth
in Sam's thick head afore Sam blurted out, "Id was da las one!"
It was years before he ate a steak. What's it got to do with you??
It's the same as when you send an item back to Ordnance and
don't tell 'em what hurts. Takes longer to find the
ache and fix it. So tag your bunged-up stuff
to tell your support shop what happened.
Tell 'em which tooth hurts.
Please, would you?